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Colorado's Woodland Resources on State and Private Land

Roger C. Conner
Alan W. Green

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PREFACE

The primary objective of Forest Survey—a continuing, nationwide undertaking of the Forest Service, U.S. Department of Agriculture—is to provide an assessment of the renewable resources for the Nation's forests. Fundamental to the accomplishment of the objective are the periodic State-by-State resource inventories. Originally, Forest Survey was authorized by the McSweeney-McNary Act of 1928. The current authorization is through the Renewable Resources Research Act of 1978.

The Intermountain Research Station with headquarters in Ogden, UT, conducts the forest resource inventories for the Rocky Mountain States of Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, western South Dakota, Utah, Wyoming, western Texas, and Oklahoma's Panhandle. These inventories provide information concerning the extent and condition of State and privately owned forest lands and most other lands not in the National Forest System.

These data, when combined with similar information for National Forest lands, provide a basis for forming forest policies and programs and for the orderly development and use of the resources.

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ACKNOWLEDGMENTS

This report is the result of the combined efforts of numerous people on the Forest Survey staff. In addition to the photo interpretation and field crews, several individuals played key roles in the reduction of basic data into information describing the extent, nature, and condition of the forest resources in Colorado: Dennis Collins supervised the data collection; Sharon Woudenberg and Shirley Waters compiled the data and made summaries; and Susan Brown and Velma Inama transformed the data summaries into tables of information. Also, we acknowledge the Colorado State Forest Service for its cooperation and assistance in collecting the inventory data. And we extend a special note of gratitude to the private land owners who allowed the field crews access to the sample locations on their properties.

RESEARCH SUMMARY

Presents data pertaining to the 2.8 million acres of State and privately owned woodlands in Colorado. Summarizes the basic statistics of the woodlands and presents tables of area, volume, growth, and mortality estimates.

Also includes a brief discussion of the possible wood products available and of the extent of the resource readily accessible by existing roads.

CONTENTS

	Page
Introduction	1
Highlights	2
Area	2
Volume	3
Components of Change	4
Potential Wood Products	6
Fuelwood	6
Posts	6
Christmas Trees	7
Other Potential Products	7
Accessibility	8
How the Inventory Was Conducted	9
Prefield	9
Field	9
Compilation	9
Data Reliability	9
Standard Forest Survey Terminology	9
References	13
Forest Survey Tables	
1. Area of State and privately owned forest land with percent standard error, Colorado, 1983	14
2. Total land and water area by ownership class, Colorado, 1983	14
3. Total land area on State and privately owned land by major land class and ownership class, Colorado, 1983	15
4. Area of woodland on State and privately owned land by forest type, ownership class, and land class, Colorado, 1983	15
5. Area of State and privately owned woodland by forest type and ownership class, Colorado, 1983	16
6. Net volume of State and privately owned woodland by species and ownership class, Colorado, 1983	16
7. Net annual growth of State and privately owned woodland by species and ownership class, Colorado, 1982	16
8. Annual mortality of State and privately owned woodland by species and ownership class, Colorado, 1982	17
9. Area of State and privately owned woodland by ownership class, site class, and forest type, Colorado, 1983	17

January 1988

Intermountain Research Station
324 25th Street
Ogden, UT 84401

	Page		Page
10. Area of State and privately owned woodland by ownership class, volume class, and forest type, Colorado, 1983	18	28. Net annual growth on State and privately owned woodland on less than 30 percent slope by ownership class, volume class, and forest type, Colorado, 1982	29
11. Net volume on State and privately owned woodland by ownership class, site class, and forest type, Colorado, 1983	18	29. Net dead volume on State and privately owned woodland on less than 30 percent slope by ownership class, site class, and forest type, Colorado, 1983	30
12. Net volume on State and privately owned woodland by ownership class, volume class, and forest type, Colorado, 1983	19	30. Net dead volume on State and privately owned woodland on less than 30 percent slope by ownership class, volume class, and forest type, Colorado, 1983	30
13. Net annual growth on State and privately owned woodland by ownership class, site class, and forest type, Colorado, 1982	19	31. Number of trees on State and privately owned woodland on less than 30 percent slope by ownership class, species, and diameter class, Colorado, 1983	31
14. Net annual growth on State and privately owned woodland by ownership class, volume class, and forest type, Colorado, 1982	20	32. Net volume on State and privately owned woodland on less than 30 percent slope by ownership class, species, and diameter class, Colorado, 1983	32
15. Net dead volume on State and privately owned woodland by ownership class, site class, and forest type, Colorado, 1983	20	33. Net annual growth on State and privately owned woodland on less than 30 percent slope by ownership class, species, and diameter class, Colorado, 1982	33
16. Net dead volume on State and privately owned woodland by ownership class, volume class, and forest type, Colorado, 1983	21	34. Net dead volume on State and privately owned woodland on less than 30 percent slope by ownership class, species, and diameter class, Colorado, 1983	34
17. Number of trees on State and privately owned woodland by ownership class, species, and diameter class, Colorado, 1983	22	35. Number of pinyon Christmas trees on State and privately owned woodland on less than 30 percent slope by ownership class, height class, and grade class, Colorado, 1983	35
18. Net volume on State and privately owned woodland by ownership class, species, and diameter class, Colorado, 1983	23	36. Number of fenceposts on State and privately owned woodland on less than 30 percent slope by ownership class, type of post, and species, Colorado, 1983	36
19. Net annual growth on State and privately owned woodland by ownership class, species, and diameter class, Colorado, 1982	24	37. Area of State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, site class, and forest type, Colorado, 1983	36
20. Net dead volume on State and privately owned woodland by ownership class, species, and diameter class, Colorado, 1983	25	38. Area of State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, volume class, and forest type, Colorado, 1983	37
21. Number of pinyon Christmas trees on State and privately owned woodland by ownership class, height class, and grade class, Colorado, 1983	26	39. Net volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, site class, and forest type, Colorado, 1983	37
22. Number of fenceposts on State and privately owned woodland by ownership class, type of post, and species, Colorado, 1983	26	40. Net volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, volume class, and forest type, Colorado, 1983	38
23. Area of State and privately owned woodland on less than 30 percent slope by ownership class, site class, and forest type, Colorado, 1983	27	41. Net annual growth on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, site class, and forest type, Colorado, 1982	38
24. Area of State and privately owned woodland on less than 30 percent slope by ownership class, volume class, and forest type, Colorado, 1983	27	42. Net annual growth on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, volume class, and forest type, Colorado, 1982	39
25. Net volume on State and privately owned woodland on less than 30 percent slope by ownership class, site class, and forest type, Colorado, 1983	28		
26. Net volume on State and privately owned woodland on less than 30 percent slope by ownership class, volume class, and forest type, Colorado, 1983	28		
27. Net annual growth on State and privately owned woodland on less than 30 percent slope by ownership class, site class, and forest type, Colorado, 1982	29		

43. Net dead volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, site class, and forest type, Colorado, 1983	39
44. Net dead volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, volume class, and forest type, Colorado, 1983	40
45. Number of trees on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1983	41
46. Net volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1983	42
47. Net annual growth on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1982	43

48. Net dead volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1983	44
49. Number of pinyon Christmas trees on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, height class, and grade class, Colorado, 1983	45
50. Number of fenceposts on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, type of post, and species, Colorado, 1983	46
51. Area of State and privately owned woodland by county and ownership class, Colorado, 1983	47
52. Net volume of State and privately owned woodland by county and ownership class, Colorado, 1983	48
53. Net annual growth of State and privately owned woodland by county and ownership class, Colorado, 1982	49
54. Annual mortality of State and privately owned woodland by county and ownership class, Colorado, 1982	50

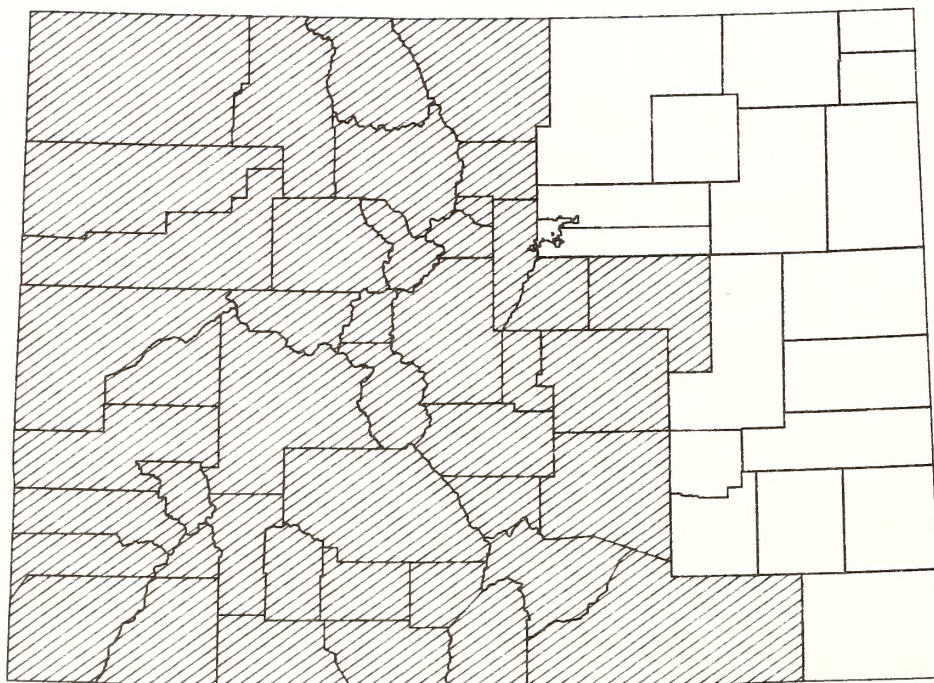


Figure 1—Counties covered by the Colorado inventory.

Colorado's Woodland Resources on State and Private Land

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INTRODUCTION

The latest inventory of Colorado's forests, completed in 1983, was confined to those counties covering the western two-thirds of the State (fig. 1). Because there is almost no forest land in eastern Colorado, it was administratively designated as "nonforest" and was not sampled. This marked the first time the State's woodlands—forest land where timber species make up less than 10 percent stocking—have been included in such an inventory, and reflects, at least in part, a changing attitude about the importance of these lands as a source of wood fiber. A "rekindling" of interest might be a more appropriate term, considering that during the late 1800's the woodlands were an important source of raw material for the economic development of the State. Mining, ranching, and the railroads required large quantities of mine props, fuelwood, fenceposts, and railroad ties, and in many cases the woodlands were the primary sources of such material (Buckman and Wolters 1987).

Woodlands occupy about 6 million of Colorado's 21.5 million acres of forest land and are found primarily in the western and south-central regions (fig. 2). The data in this report pertain only to the 2.8 million acres of State and privately owned woodland within those counties included in the inventory. For the Colorado inventory, Indian lands were considered a component of private lands.

The rest of the woodland—some 3.8 million acres—is on public lands. Nearly all of it is on lands managed by the USDI Bureau of Land Management (BLM), but about half a million acres of woodland are found within the National Forests (USDA Forest Service 1987). Although these lands were not included in the 1983 inventory, the nature and condition of the woodland resources on State and private land is likely to be fairly representative of the woodlands on public lands.

All tables mentioned in the text appear at the end of this publication.

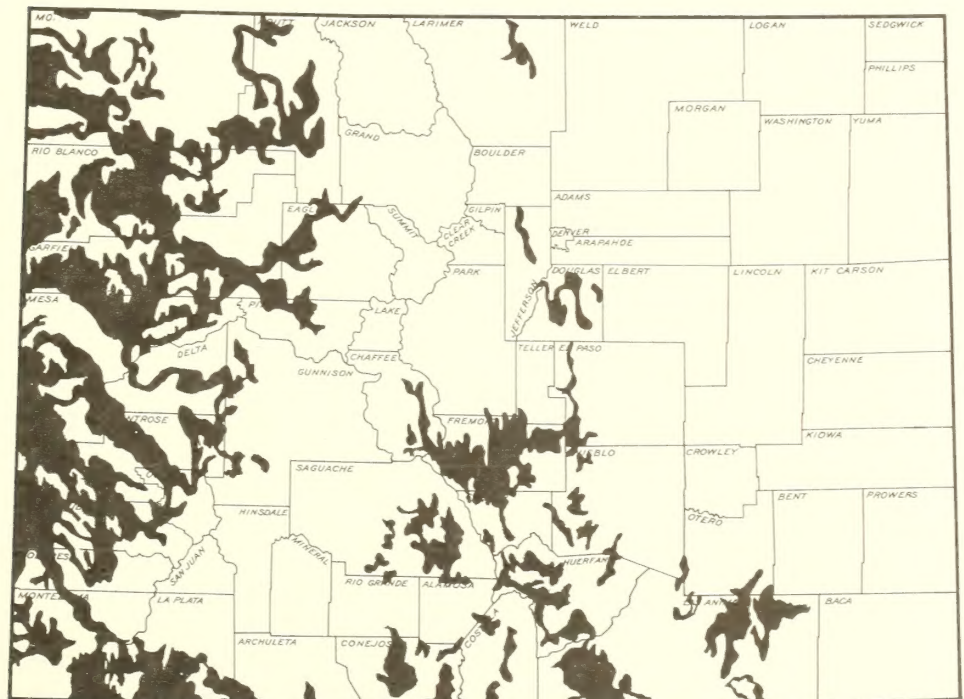


Figure 2—Geographical distribution of woodland in Colorado.

HIGHLIGHTS

Area

Those counties included in the inventory cover an area of over 46.2 million acres. About 22.9 million acres are State and privately owned, and of this over 6.4 million acres are forested. Woodlands account for 44 percent or 2.8 million acres of the State and privately owned forest land. Nearly all are privately owned (fig. 3).

Pinyon-juniper (P-J) is the major woodland forest type and occupies about 1.7 million acres, or roughly three-fifths of the woodland area. An additional 438,000 acres are pure juniper stands. The oak type is found on approximately 672,000 acres, about a quarter of the woodland area. Riparian and other western hardwood types account for less than 1 percent (fig. 4).

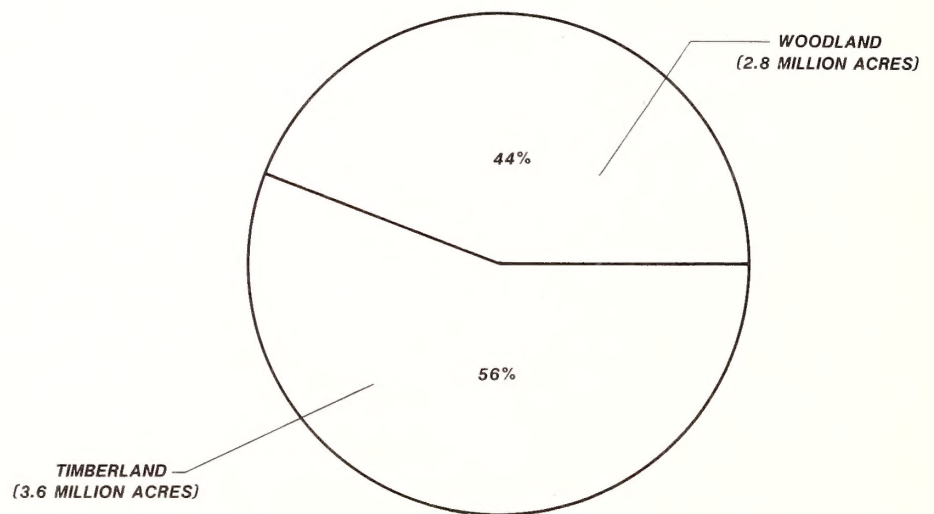


Figure 3—Distribution of State and private forest land by land class.

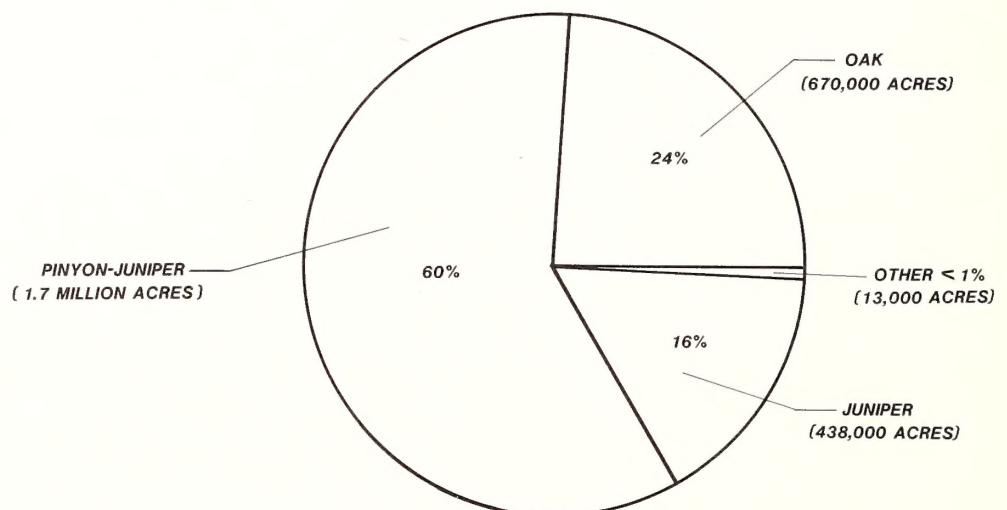


Figure 4—Distribution of State and private woodland area by forest type.

About two-thirds of the area, or 1.9 million acres, support less than 500 cubic feet of volume per acre. Only 352,000 acres, 13 percent, contain more than 1,000 cubic feet per acre. Nearly all of the oak type is in the lowest volume class. Typically, the oak stands in Colorado, specifically Gambel oak (*Quercus gambelii*), are characterized by dense clumps of small trees that have little volume (fig. 5).

Volume

Net live volume on State and private woodland amounted to nearly 1.1 billion cubic feet in 1982, and deadwood volume totaled 136 million cubic feet. Total volume averaged over 441 cubic feet per acre.

Juniper species (*Juniperus scopulorum*, *J. osteosperma*, *J. monosperma*) account for over half of the total volume. About 11 percent of this, or 75.4 million cubic feet, is deadwood, primarily on live trees. Pinyon (*Pinus edulis*) amounts to 431.3 million cubic feet, over a third of the total volume. Dead volume was just under 48 million cubic feet, about 11 percent of the total for pinyon (fig. 6).

Over half of the total net live volume, roughly 609 million cubic feet, is in trees less than 15 inches diameter at root collar (d.r.c.). Oak species, which account for roughly 70 percent of the 1.4 billion live trees and 47 percent of the trees over 3 inches d.r.c., accounted for just 11 percent of the total live volume, about 117 million cubic feet.

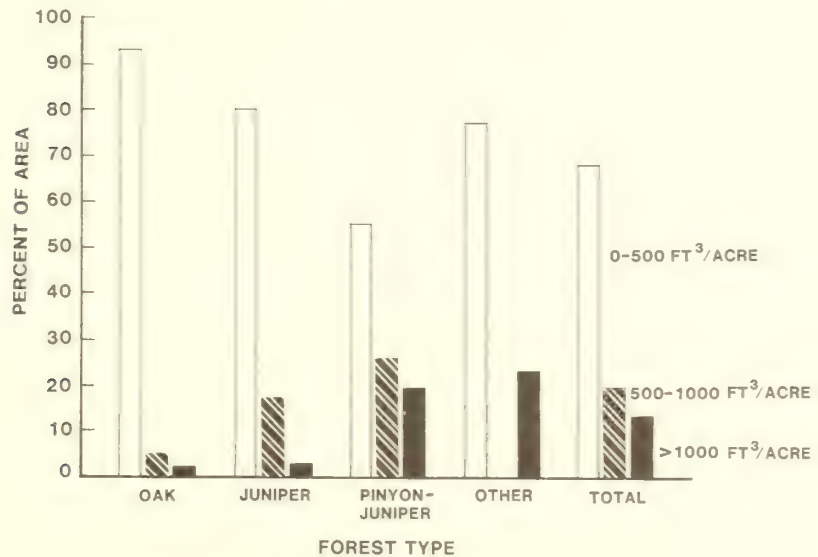


Figure 5—Distribution of State and private woodland area by forest type and volume class.

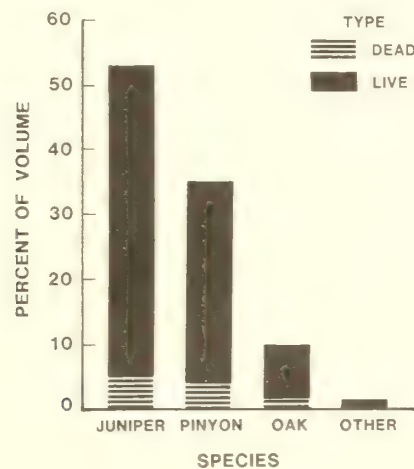


Figure 6—Total volume on State and private woodland by species, 1983.

Components of Change

Nearly three-fourths of the oak volume is in trees less than 7 inches d.r.c., and 58 percent or 67.9 million cubic feet is in the 4-inch class alone. Volume for pinyon and juniper species is distributed somewhat more evenly throughout the diameter classes (fig. 7).

On the average, the P-J forest type contains roughly 570 cubic feet of volume (live and dead) per acre while the pure juniper types contain about 344 cubic feet per acre. Oak types average just under 184 cubic feet of volume per acre. These average volumes by type are directly related to stand density, relative site quality, and tree diameter.

Growth—Total net annual growth on State and private woodlands was 15.2 million cubic feet in 1982 (appendix table 13). This is equivalent to adding about 190,000 cords of wood per year (80 cubic feet per cord) and is roughly 1.4 percent of the live volume. Pinyon, juniper, and oak species each contributed about a third of the growth even though oak accounted for only 11 percent of the live volume (fig. 8).

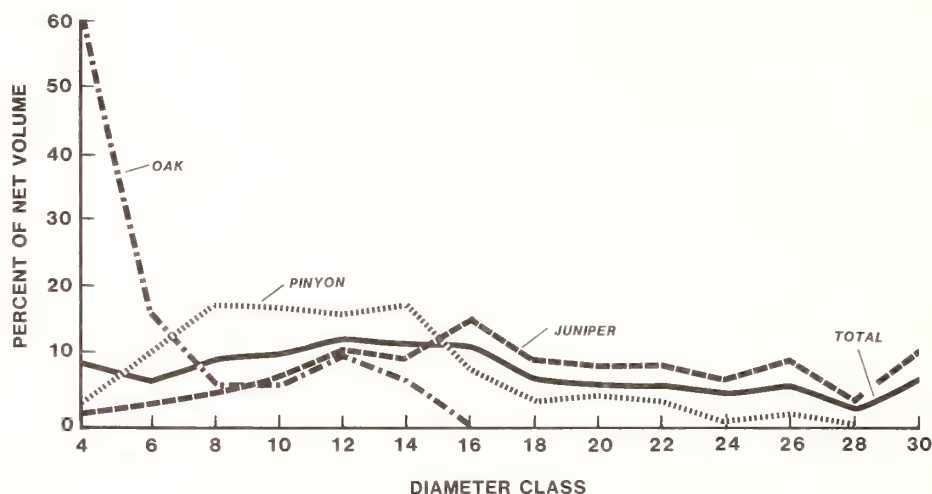


Figure 7—Net volume on State and private woodland by species and diameter class, 1983.

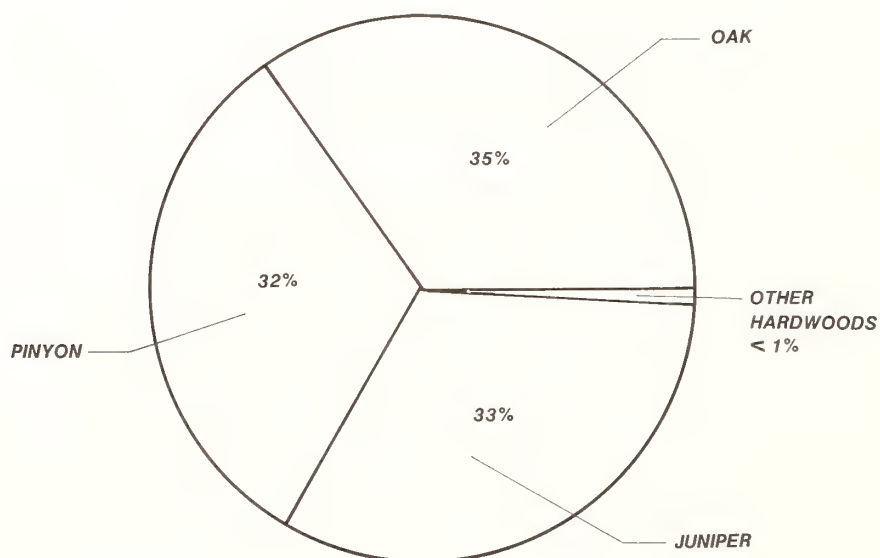


Figure 8—Distribution of net annual growth on State and private woodland by species, 1982.

Nearly three-quarters of the total net annual growth is in trees less than 11 inches d.r.c., and over a third—38 percent—is in the 4-inch d.r.c. class. The high proportion here is due primarily to the condition of Gambel oak, which accounts for about 77 percent of the trees in this diameter class. Over 83 percent of the net annual growth of pinyon is also in trees less than 11 inches d.r.c (fig. 9).

The oak forest type, through the benefit of a greater number of trees, averages a somewhat better growth rate per acre than the other types. Oak produces about 7.6 cubic feet of volume per year, while the P-J and juniper types average approximately 5 cubic feet and 4.1 cubic feet per acre per year, respectively (appendix table 13).

Average net annual growth on private woodlands in 1982 was about 5.5 cubic feet per acre. State owned woodlands averaged roughly 4.9 cubic feet per acre per year.

Mortality—Annual mortality of 2.3 million cubic feet offsets about 15 percent of the total growth for woodland (appendix table 8). Average mortality is less than 1 cubic foot per acre per year.

Pinyon and juniper species account for 73 percent or about 1.7 million cubic feet of the annual mortality, which is roughly proportional to their share of the net volume (fig. 10).

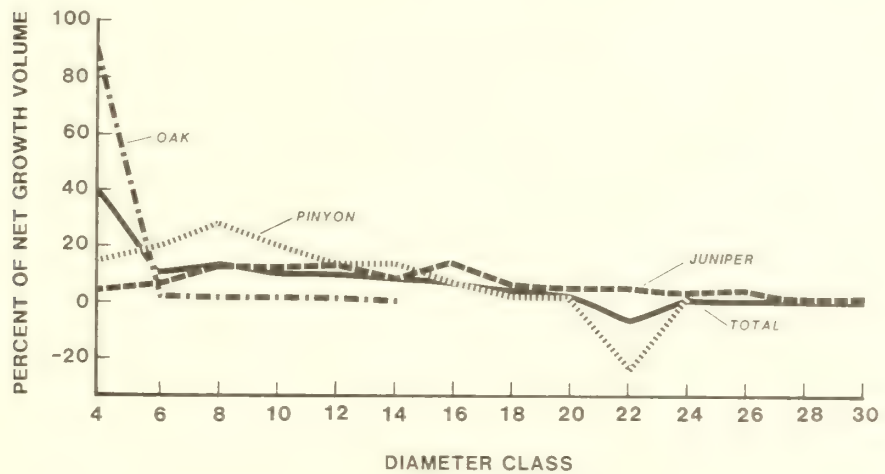


Figure 9—Net annual growth on State and private woodland by species and diameter class, 1982 (total excludes other hardwoods).



Figure 10—Distribution of annual mortality on State and private woodland by species group, 1982.

POTENTIAL WOOD PRODUCTS

Potential products from the woodlands include fuelwood, fenceposts, Christmas trees, and others.

Fuelwood

Historically, fuelwood has been a major wood product harvested from woodlands. Native Americans, explorers, pioneers, settlers, and even some early industries likely depended upon the resources for firewood or industrial fuel.

Today, woodlands remain a popular source of firewood for residential use and for some commercial operators. A recent survey of the fuelwood situation in Colorado reports an estimated 41,000 cords were harvested from woodland tree species in 1982 (McLain and Booth 1985).

As shown in figure 11, nearly 32,000 cords, or 2.6 million cubic feet, were harvested from woodland species on State and privately owned land. Over 70 percent of this harvest was from dead trees.

About 1.7 million cubic feet—68 percent of the total fuelwood harvest—came from pinyon, reportedly all of it from dead trees. Nearly all of the live volume of fuelwood harvested, over 9,000 cords, came from juniper species, and all was cut from private lands. Privately owned land also contributed all of the approximately 88,000 cubic feet of oaks and other hardwoods cut for fuelwood.

Deadwood harvested from woodland species represents about 1 percent of the 136 million cubic feet of salvable dead volume available (appendix table 15).

Posts

Woodland tree species, primarily juniper and oak, are often cut for fenceposts (fig. 12). An estimated 159 million usable corner and line posts are in trees on Colorado's State and private woodlands. Over a third of these, about 54 million, are the more desirable corner posts.

Approximately 70 percent of the posts are in juniper, and roughly 70.8 million of these are line posts. Oak contributes about 4 percent or 5.8 million, and nearly all of these are line posts.

Although pinyon is not commonly made into fenceposts, some use of it for this purpose was noted throughout the State. The estimated 43.6 million pinyon posts account for over a quarter of the total.

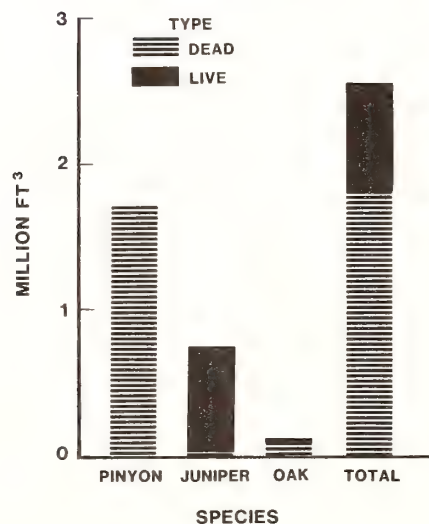


Figure 11—Live and dead fuelwood harvested from woodland species on State and private land, 1982.

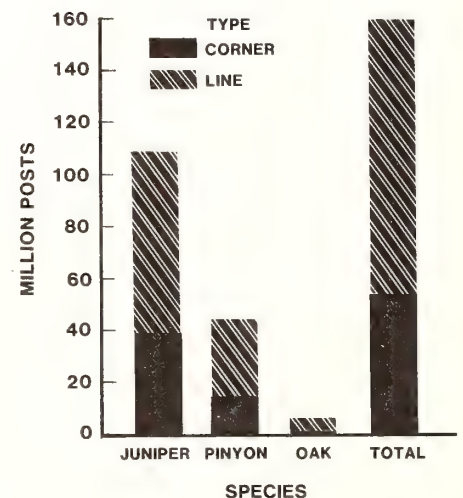


Figure 12—Number of fenceposts on State and private woodland by species and type of post.

Christmas Trees

Pinyon is the only woodland tree species used as Christmas trees. Of the estimated 239.3 million pinyon trees on State and private land in Colorado, about 70 million, or 29 percent, met at least minimum height and form criteria to qualify as potential Christmas trees (appendix table 21).

Although the majority were considered utility grade, over a third, roughly 23.2 million, met the standard grade criteria. Another 3.2 million were the more desirable premium grade (fig. 13).

Nearly half the trees were in the preferred 6- to 10-foot height class. Just under 86 percent of the premium grade trees were in this class.

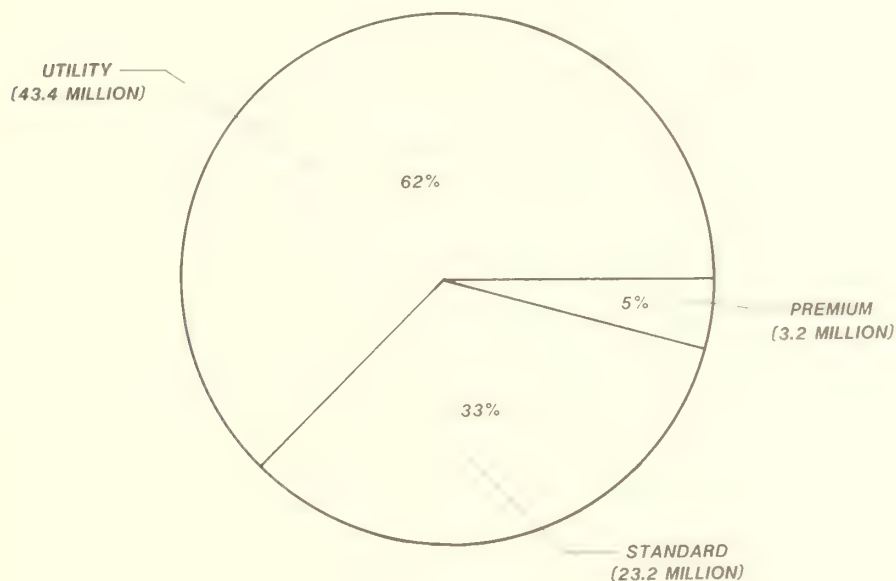


Figure 13—Number of pinyon Christmas trees on State and private woodland by grade.

Other Potential Products

In addition to these widely accepted products already being harvested from woodlands, recent research has been conducted into the feasibility of producing other wood fiber products. Although additional research is needed, the potential to use pinyon and juniper wood to produce particle board, paper, cement board, and naval-stores products has shown promise (Murphy 1987).

ACCESSIBILITY

Accessibility has to do with the relative ease or difficulty with which trees can be reached for harvest. Nearness to roads and steepness of slope are usually thought to be reasonable indicators of the degree of difficulty to be encountered in a commercial harvest operation. The rather arbitrary rule of thumb of "less than 30 percent slope and within a mile of a road" is considered here as an acceptable standard for accessibility.

Using that definition we find much of Colorado's State and private woodlands is easily accessible (fig. 14). Nearly 2.0 million acres or 70 percent of the woodland area is within 1 mile of a road and has slopes of less than 30 percent. These acres contain the major proportion of the live and dead volume, net annual growth, and wood products available from Colorado's woodlands.

Moreover, because degree of slope has some bearing on site quality, these areas likely contain some of the better woodland sites. Thus, slope would be an indicator of areas to feature in management.

The distribution of the accessible area by forest type is virtually the same as the distribution of the total State and private woodland area: pinyon-juniper 59 percent, oak 23 percent, juniper 17 percent, and other woodland types 1 percent (fig. 15).

In addition to the above area, another 114,000 acres of State and private woodland in Colorado have slopes of less than 30 percent but are presently more than 1 mile from a road. The assumption of site quality and management potential apply to these acres as well.

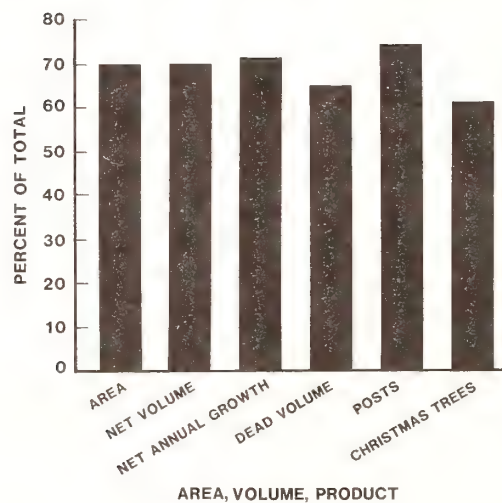


Figure 14—Percentage of State and private woodland on slopes less than 30 percent and within 1 mile of a road by area, volume, and wood product.

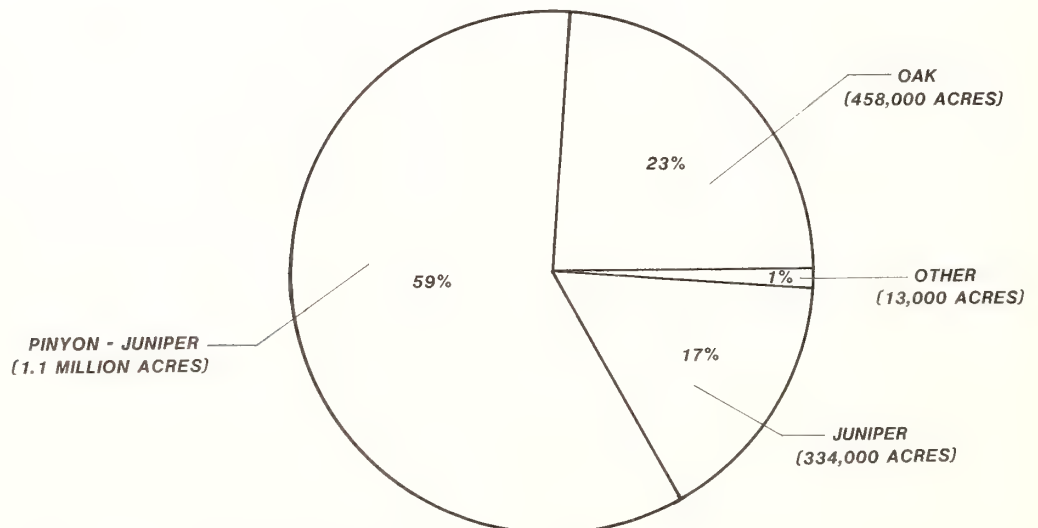


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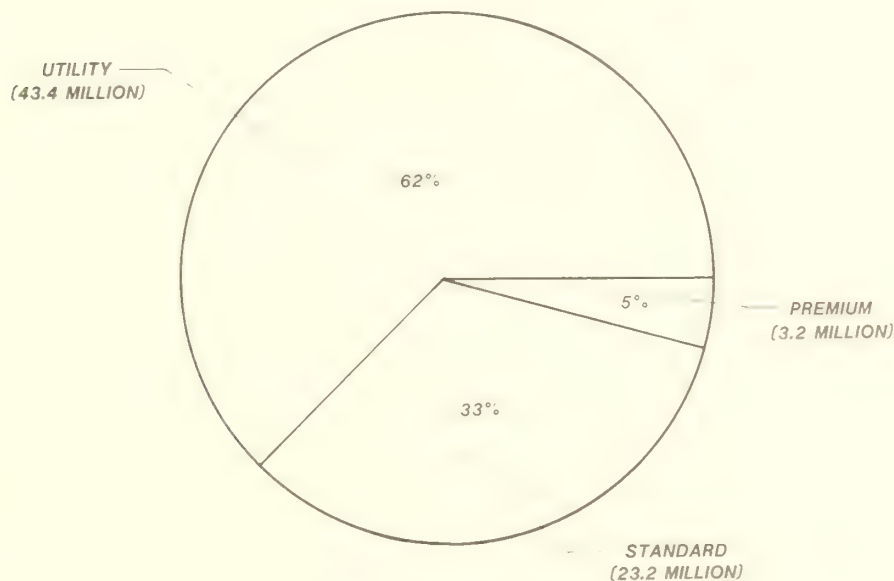


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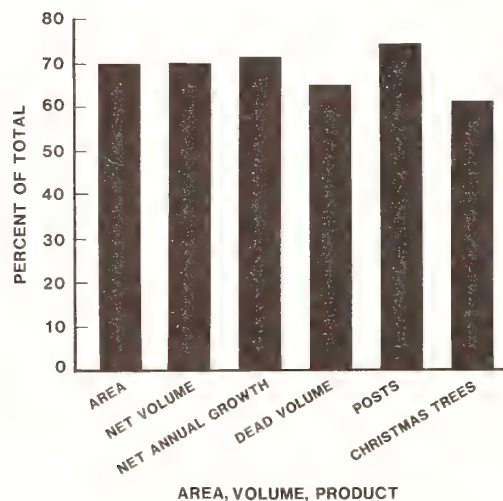


Figure 14—Percentage of State and private woodland on slopes less than 30 percent and within 1 mile of a road by area, volume, and wood product.

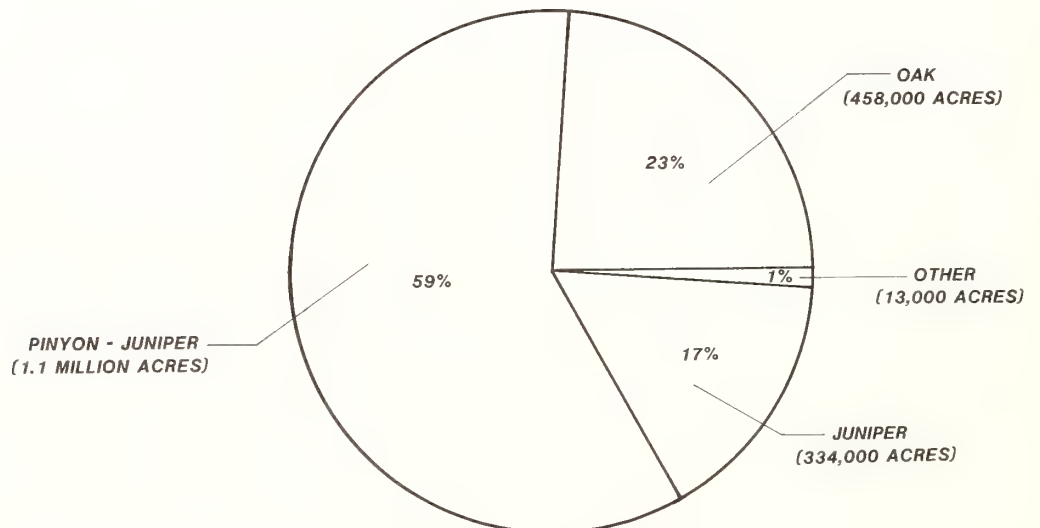


Figure 15—Area of State and private woodland on slopes less than 30 percent and within 1 mile of a road by forest type.

HOW THE INVENTORY WAS CONDUCTED

The inventory was designed to provide reliable statistics primarily at the State and sample area levels.

Prefield

Primary area estimates were based on the classification of 187,765 sample points systematically placed on the latest aerial photographs available. The photopoints, adjusted to meet known land areas by owner class, were used to stratify and compute expansion factors for the field sample data.

Field

Land classification and estimates for woodland characteristics and volume were based on observations and measurements recorded at 3,340 ground sample locations, of which 1,216 were forested. Of the forested locations, 243 were classified as woodland. Sample trees were selected using fixed radius plots of 1/5, 1/10, or 1/20 acre for trees over 3 inches d.r.c., and 1/100 acre for trees less than 3 inches d.r.c.

Compilation

All photo and field data were entered into a computer for editing, computation, and tabulation. Final estimates from these data were based on statistical summaries, a portion of which is included in this bulletin. Volume was computed using equations developed by Edminster and others (1980, 1981), Kemp (1958), Chojnacky (1985), Meyers (1964), and Meyers and others (1972). Defect was computed from field observations.

DATA RELIABILITY

Individual cells within tables should be used with caution. Some are based on small sample sizes, which may result in high sampling errors. The standard error percentages shown in table 1 were calculated at the 67 percent confidence level.

STANDARD FOREST SURVEY TERMINOLOGY

Acceptable trees—Growing-stock trees meeting specified standards of size and quality but not qualifying as desirable trees.

Area condition class—A classification of timberland reflecting the degree to which the site is being utilized by growing-stock trees and other conditions affecting current and prospective timber growth (see Stocking):

Class 10—Areas fully stocked with desirable trees and not overstocked.

Class 20—Areas fully stocked with desirable trees but overstocked with all live trees.

Class 30—Areas medium to fully stocked with desirable trees and with less than 30 percent of the area controlled by other trees, or inhibiting vegetation or surface conditions that will prevent occupancy by desirable trees, or both.

Class 40—Areas medium to fully stocked with desirable trees and with 30 percent or more of the area controlled by other trees, or conditions that ordinarily prevent occupancy by desirable trees, or both.

Class 50—Areas poorly stocked with desirable trees but fully stocked with growing-stock trees.

Class 60—Areas poorly stocked with desirable trees but with medium to full stocking of growing-stock trees.

Class 70—Areas nonstocked or poorly stocked with desirable trees and poorly stocked with growing-stock trees.

Class 80—Low-risk old-growth stands.

Class 90—High-risk old-growth stands.

Nonstocked—Areas less than 10 percent stocked with growing-stock trees.

Basal area—The cross-sectional area of a tree expressed in square feet. For timber species the calculation is based on diameter at breast height (d.b.h.); for woodland species it is based on diameter at root collar (d.r.c.).

Christmas tree grade—Pinyon species are classified as Christmas trees using the following guidelines:

Premium—Excellent conical form with no gaps in branches and a straight bole.

Standard—Good conical form with small gaps in branches and bole slightly malformed.

Utility—Conical in form with branches missing and bole bent or malformed.

Cull—Not meeting one of the above classifications or over 12 feet in height.

Cord—A pile of stacked wood equivalent to 128 cubic feet of wood and air space having standard dimensions of 4 by 4 by 8 feet.

Cull trees—Live trees that are unmerchantable now or prospectively (see Rough trees and Rotten trees).

Cull volume—Portions of a tree's volume that are not usable for wood products because of rot, form, missing material, or other cubic-foot defect. Form and sound defects include severe sweep and crook, forks, extreme form reduction, large deformities, and dead material.

Deferred forest land—Forest lands within the National Forest System that are under study for possible inclusion in the Wilderness System.

Desirable trees—Growing-stock trees (1) having no serious defect in quality to limit present or prospective use for timber products, (2) of relatively high vigor, and (3) containing no pathogens that may result in death or serious deterioration within the next decade.

Diameter at breast height (d.b.h.)—Diameter of the stem measured at 4.5 feet above the ground.

Diameter at root collar (d.r.c.)—Diameter equivalent at the point nearest the ground line that represents the basal area of the tree stem or stems.

Diameter classes—Tree diameters, either d.b.h. or d.r.c., grouped into 2-inch classes labeled by the midpoint of the class.

Farmer/rancher-owned lands—Lands owned by a person who operates a farm or a ranch and who either does the work or directly supervises the work.

Forest industry lands—Lands owned by companies or individuals operating a primary wood-processing plant.

Forest lands—Lands at least 10 percent stocked by forest trees of any size, including lands that formerly had such tree cover and that will be naturally or artificially regenerated. The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width at least 120 feet wide to qualify as forest land. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if less than 120 feet wide.

Forest trees—Woody plants having a well-developed stem or stems, usually more than 12 feet in height at maturity, with a generally well-defined crown.

Forest type—A classification of forest land based upon and named for the tree species presently forming a plurality of live-tree stocking.

Gross annual growth—The average annual increase in the net volume of trees during a specified period.

Growing-stock trees—Live sawtimber trees, poletimber trees, saplings, and seedlings of timber species meeting specified standards of quality and vigor; excludes cull trees.

Growing-stock volume—Net cubic-foot volume in live poletimber-size and sawtimber-size growing-stock trees from a 1-foot stump to a minimum 4-inch top (of central stem) outside bark or to the point where the central stem breaks into limbs.

Growth—See definition for Net annual growth.

Hardwood trees—Dicotyledonous trees, usually broad-leaved and deciduous.

High-risk old-growth stands—Timber stands over 100 years old in which the majority of the trees are not expected to survive more than 10 years.

Indian lands—Indian lands held in trust by the Federal Government.

Industrial wood—All commercial roundwood products except fuelwood.

Land area—The area of dry land and land temporarily or partially covered by water such as marshes, swamps, and river flood plains, streams, sloughs, estuaries, and canals less than 120 feet wide; and lakes, reservoirs, and ponds less than 1 acre in size.

Logging residues—The unused portions of growing-stock trees cut or killed by logging.

Low-risk old-growth stands—Timber stands over 100 years old in which the majority of the trees are expected to survive more than 10 years.

Miscellaneous Federal lands—Lands administered by Federal agencies other than the Forest Service, U.S. Department of Agriculture, or Bureau of Land Management, U.S. Department of the Interior.

Mortality—The net volume of growing-stock trees that have died from natural causes during a specified period.

National Forest lands—Public lands administered by the Forest Service, U.S. Department of Agriculture.

National Resource lands—Public lands administered by the Bureau of Land Management, U.S. Department of the Interior.

Net annual growth—Gross annual growth minus average annual mortality.

Net dead volume—Total net volume of dead trees plus the net volume of dead material in live trees.

Net volume in board feet—The gross board-foot volume in the sawlog portion of growing-stock trees, less deductions for cull volume.

Net volume in cubic feet—Gross cubic-foot volume in the merchantable portion of trees less deductions for cull volume. For timber species, volume is computed for the merchantable stem from a 1-foot stump to a minimum 4-inch top diameter outside bark (d.o.b.), or to the point where the central stem breaks into limbs. For woodland species, volume is computed outside bark (o.b.) for all woody material above d.r.c. that is larger than 1.5 inches d.o.b.

Nonforest lands—Lands that do not currently qualify as forest land.

Nonindustrial private—All private ownerships except forest industry.

Nonstocked areas—Forest land less than 10 percent stocked with live trees.

Old-growth stands—Stands of timber species over 100 years old.

Other private lands—Privately owned lands other than forest industry or farmer-owned.

Other public lands—Public lands administered by agencies other than the Forest Service, U.S. Department of Agriculture.

Other removals—The net volume of growing-stock trees removed from the inventory by cultural operations such as timber-stand improvement, by land clearing, and by changes in land use, such as a shift to wilderness.

Poletimber stands—Stands at least 10 percent stocked with growing-stock trees, in which half or more of the stocking is sawtimber or poletimber trees or both, with poletimber stocking exceeding that of sawtimber (see definition for Stocking).

Poletimber trees—Live trees of timber species at least 5 inches d.b.h. but smaller than sawtimber size.

Posts—Juniper and oak species are evaluated for post potential using the following criteria:
 Line post—A 7-foot minimum length with 5 to 7 inches diameter at the butt, 2.5-inch minimum small end diameter, and reasonably straight and solid.
 Corner post—An 8-foot minimum length with 7 to 9 inches diameter at the butt, 2.5-inch minimum small end diameter, and reasonably straight and solid.

Potential growth—The average net annual cubic-foot growth per acre at culmination of mean annual growth attainable in fully stocked natural stands.

Primary wood-processing plants—Plants using roundwood products such as sawlogs, pulpwood bolts, veneer logs, and so forth.

Productivity class—A classification of forest land that reflects biological potential. For timberlands the index used is the potential net annual growth at culmination of mean annual increment in fully stocked natural stands. For woodland, characteristics that affect the land's ability to produce wood, such as soil depth and aspect, are used. Furthermore, woodland is classified as high site where sustained wood production is likely, or low site where the continuous production of wood is unlikely.

Removals—The net volume of growing-stock trees removed from the inventory by harvesting, cultural operations, land clearings, or changes in land use.

Reserved forest land—Forest land withdrawn from tree utilization through statute or administrative designation.

Residues:

Coarse residues—Plant residues suitable for chipping, such as slabs, edgings, and ends.

Fine residues—Plant residues not suitable for chipping, such as sawdust, shavings, and veneer clippings.

Plant residues—Wood materials from primary manufacturing plants that are not used for any product.

Rotten trees—Live poletimber or sawtimber trees with more than 67 percent of their total volume cull (cubic-foot) and with more than half of the cull volume attributable to rotten or missing material.

Rough trees—Live poletimber or sawtimber trees with more than 67 percent of their total volume cull (cubic-foot) and with less than half of the cull volume attributable to rotten or missing material.

Roundwood—Logs, bolts, or other round sections cut from trees.

Salvable dead trees—Standing or down dead trees that are currently merchantable by regional standards.

Saplings—Live trees of timber species 1 to 4.9 inches d.b.h. or woodland species 1 to 2.9 inches d.r.c.

Sapling and seedling stands—Timberland stands at least 10 percent stocked on which more than half of the stocking is saplings or seedlings or both.

Sawlog portion—That part of the bole of sawtimber trees between a 1-foot stump and the sawlog top.

Sawlog top—The point on the bole of sawtimber trees above which a sawlog cannot be produced. The minimum sawlog top is 7 inches d.o.b. for softwoods and 9 inches d.o.b. for hardwoods.

Sawtimber stands—Stands at least 10 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Sawtimber trees—Live trees of timber species meeting regional size and defect specifications. Softwood trees must be at least 9 inches d.b.h. and hardwood trees 11 inches d.b.h.

Sawtimber volume—Net volume in board feet of the sawlog portion of live sawtimber trees.

Seedlings—Established live trees of timber species less than 1 inch d.b.h. or woodland species less than 1 inch d.r.c.

Softwood trees—Monocotyledonous trees, usually evergreen, having needle or scalelike leaves.

Standard error—An expression of the degree of confidence that can be placed on an estimated total or average obtained by statistical sampling methods. Standard errors do not include technique errors that could occur in photo classification of areas, field measurements, or compilation of data.

Stand-size classes—A classification of forest land based on the predominant size of trees present (see Sawtimber stands, Poletimber stands, and Sapling and seedling stands).

State, county, and municipal lands—Lands administered by States, counties, and local public agencies, or lands leased by these governmental units for more than 50 years.

Stocking—An expression of the extent to which growing space is effectively utilized by present or potential growing-stock trees of timber species.

Timberland—Forest land where timber species make up at least 10 percent stocking.

Timber species—Tree species traditionally used for industrial wood products. In the Rocky Mountain States, these include aspen and cottonwood hardwood species and all softwood species except pinyon and juniper.

Timber stand improvement—Treatments such as thinning, pruning, release cutting, girdling, weeding, or poisoning of unwanted trees aimed at improving growing conditions for the remaining trees.

Upper-stem portion—That part of the main stem or fork of sawtimber trees above the sawlog top to a minimum top diameter of 4 inches outside bark or to the point where the main stem or fork breaks into limbs.

Water—Streams, sloughs, estuaries, and canals more than 120 feet wide, and lakes, reservoirs, and ponds more than 1 acre in size at mean high water level.

Wilderness—An area of undeveloped land currently included in the Wilderness System, managed so as to preserve its natural conditions and retain its primeval character and influence.

Woodland—Forest land where timber species make up less than 10 percent stocking.

Woodland species—Tree species not usually converted into industrial wood products. Common uses are fuelwood, fenceposts, and Christmas trees.

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FOREST SURVEY TABLES

Table 1--Area of State and privately owned forest land with percent standard error, Colorado, 1983

Item	Softwoods		Hardwoods		All types	
	Thousand acres	Percent standard error	Thousand acres	Percent standard error	Thousand acres	Percent standard error
Timberland	2,655.2	± 3.1	945.2	± 5.9	3,600.4	± 2.4
Woodland	2,103.4	± 4.2	683.2	±10.7	2,786.6	± 3.8
Reserved forest land ¹						
Timberland	15.3		3.6		18.9	
Woodland	4.5		2.4		6.9	
Total forest land ²	4,778.4		1,634.4		6,412.8	

¹Reserved land areas are estimated from aerial photos without field verification; therefore, standard errors are not calculated.

²On this and all following tables, totals may vary due to rounding.

Table 2--Total land and water area by ownership class, Colorado, 1983

Ownership class	Area
	- - <u>Thousand acres</u> - -
Land:	
Public:	
National Forest	14,430.8
Other Public:	
Bureau of Land Management	8,333.0
National Parks ¹	610.3
Miscellaneous Federal	271.6
State	3,022.9
County and municipal	316.2
Total other public	11,943.7
Total public	26,984.8
Private	39,315.9
Total land area	66,300.7
Census water	317.5
Total land and water ²	66,618.2

¹National Park area is included in this table only. No volume tables are included for National Parks.

²U.S. Bureau of the Census, land and water area of the United States, 1980.

Table 3--Total land area on State and privately owned land by major land class and ownership class, Colorado, 1983

Land class	Ownership class		Total
	State	Private	
----- Thousand acres -----			
Timberland:			
Reserved	18.9	--	18.9
Nonreserved	235.2	3,365.2	3,600.4
Total	254.1	3,365.2	3,619.3
Woodland:			
Reserved	6.9	--	6.9
Nonreserved	161.2	2,625.4	2,786.6
Total	168.1	2,625.4	2,793.5
Total forest land:			
Reserved	25.8	--	25.8
Nonreserved	396.4	5,990.6	6,412.8
Total	422.2	5,990.6	6,412.8
Nonforest land ¹	2,600.7	33,325.3	35,926.0
Total land area	3,022.9	39,315.9	42,338.8

¹Includes all of eastern Colorado, which was administratively determined to be nonforest land.

Table 4--Area of woodland on State and privately owned land by forest type, ownership class, and land class, Colorado, 1983

Forest type	Ownership class and land class						Total
	State		Private		All owners		
	Reserved	Nonreserved	Reserved	Nonreserved	Reserved	Nonreserved	
	----- Thousand acres -----						
Pinyon-juniper	4.5	98.3	--	1,567.6	4.5	1,665.9	1,670.4
Juniper	--	31.1	--	406.4	--	437.5	437.5
Oak	2.4	31.4	--	638.5	2.4	669.9	672.3
Other western hardwoods	--	0.4	--	12.9	--	13.3	13.3
Total	6.9	161.2	--	2,625.4	6.9	2,786.6	2,793.5

Table 5--Area of State and privately owned woodland by forest type and ownership class, Colorado, 1983

Forest type	Ownership class		
	State	Private	Total
----- Thousand acres -----			
Pinyon-juniper	98.3	1,567.6	1,665.9
Juniper	31.1	406.4	437.5
Total woodland softwoods	129.4	1,974.0	2,103.4
Oak	31.4	638.5	669.9
Other western hardwoods	0.4	12.9	13.3
Total woodland hardwoods	31.8	651.4	683.2
All types	161.2	2,625.4	2,786.6

Table 6--Net volume of State and privately owned woodland by species and ownership class, Colorado, 1983

Species	Ownership class		
	State	Private	Total
----- Thousand cubic feet -----			
Douglas-fir	5	184	189
Ponderosa pine	13	303	316
Aspen	180	4,431	4,611
Woodland softwoods	53,494	917,020	970,514
Woodland hardwoods	7,319	115,496	122,815
All species	61,011	1,037,434	1,098,445

Table 7--Net annual growth of State and privately owned woodland by species and ownership class, Colorado, 1982

Species	Ownership class		
	State	Private	Total
----- Thousand cubic feet -----			
Douglas-fir	4	122	126
Ponderosa pine	(1)	4	4
Aspen	5	120	125
Woodland softwoods	545	9,366	9,911
Woodland hardwoods	244	5,078	5,322
All species	798	14,690	15,488

¹Less than 0.5 thousand cubic feet.

Table 8--Annual mortality of State and privately owned woodland by species and ownership class, Colorado, 1982

Species	Ownership class		
	State	Private	Total
----- Thousand cubic feet -----			
Douglas-fir	--	--	--
Ponderosa pine	--	--	--
Aspen	(1)	8	8
Woodland softwoods	118	1,543	1,661
Woodland hardwoods	41	570	611
All species	159	2,121	2,280

¹Less than 0.5 thousand cubic feet.

Table 9--Area of State and privately owned woodland by ownership class, site class, and forest type, Colorado, 1983

Ownership class	Site class	Forest type				All types
		Pinyon-juniper	Juniper	Oak	Other	
----- Thousand acres -----						
State:	High site	84	23	19	(1)	126
	Low site	15	8	12	(1)	35
	All classes	99	31	31	(1)	161
Private:	High site	1,253	314	433	3	2,003
	Low site	314	93	206	10	623
	All classes	1,567	407	639	13	2,626
All owners:	High site	1,337	337	452	3	2,129
	Low site	329	101	218	10	658
	All classes	1,666	438	670	13	2,787

¹Less than 0.5 thousand acres.

Table 10--Area of State and privately owned woodland by ownership class, volume class, and forest type, Colorado, 1983

Ownership class	Volume class (cu ft/acre)	Forest type				
		Pinyon- juniper	Juniper	Oak	Other	All types
----- <u>Thousand acres</u> -----						
State:						
	0 - 500	58	26	28	(1)	112
	500 - 1,000	26	5	1	--	32
	1,000+	14	1	2	(1)	17
	All classes	98	32	31	(1)	161
Private:						
	0 - 500	867	325	594	10	1,796
	500 - 1,000	396	69	30	--	495
	1,000+	305	12	15	3	335
	All classes	1,568	406	639	13	2,626
All owners:						
	0 - 500	925	351	622	10	1,908
	500 - 1,000	422	74	31	--	527
	1,000+	319	13	17	3	352
	All classes	1,666	438	670	13	2,787

¹Less than 0.5 thousand acres.

Table 11--Net volume on State and privately owned woodland by ownership class, site class, and forest type, Colorado, 1983

Ownership class	Site class	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
<hr/>						
<div>----- <u>Thousand cubic feet</u> -----</div>						
State:						
	High site	38,024	7,316	3,830	244	49,414
	Low site	6,838	1,518	3,039	3	11,398
	All classes	44,862	8,834	6,869	247	60,812
Private:						
	High site	635,429	107,097	75,658	4,946	823,130
	Low site	160,801	19,639	28,835	112	209,387
	All classes	796,230	126,736	104,493	5,058	1,032,517
All owners:						
	High site	673,453	114,413	79,488	5,190	872,544
	Low site	167,639	21,157	31,874	115	220,785
	All classes	841,092	135,570	111,362	5,305	1,093,329

¹Does not include timber species in woodland forest types.

Table 12--Net volume on State and privately owned woodland by ownership class, volume class, and forest type, Colorado, 1983

Ownership class	Volume class (cu ft/acre)	Forest type				
		Pinyon-juniper	Juniper	Oak	Other	All types ¹
----- Thousand cubic feet -----						
State:						
	0 - 500	13,778	4,875	3,407	3	22,063
	500 - 1,000	16,171	2,705	636	--	19,512
	1,000+	14,914	1,254	2,826	244	19,238
	All classes	44,863	8,834	6,869	247	60,813
Private:						
	0 - 500	208,097	60,892	66,166	112	335,267
	500 - 1,000	246,076	38,757	15,154	--	299,987
	1,000+	342,056	27,087	23,173	4,946	397,262
	All classes	796,229	126,736	104,493	5,058	1,032,516
All owners:						
	0 - 500	221,875	65,767	69,573	115	357,330
	500 - 1,000	262,247	41,462	15,790	--	319,499
	1,000+	356,970	28,341	25,999	5,190	416,500
	All classes	841,092	135,570	111,362	5,305	1,093,329

¹Does not include timber species in woodland forest types.

Table 13--Net annual growth on State and privately owned woodland by ownership class, site class, and forest type, Colorado, 1982

Ownership class	Site class	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
----- Thousand cubic feet -----						
State:	High site	491	122	168	1	782
	Low site	-72	11	66	(²)	5
	All classes	419	133	234	1	787
Private:	High site	7,700	1,542	4,081	22	13,345
	Low site	174	120	800	7	1,101
	All classes	7,874	1,662	4,881	29	14,446
All owners:	High site	8,191	1,664	4,249	23	14,127
	Low site	102	131	866	7	1,106
	All classes	8,293	1,795	5,115	30	15,233

¹Does not include timber species in woodland forest types.

²Less than 0.5 thousand cubic feet.

Table 14--Net annual growth on State and privately owned woodland by ownership class, volume class, and forest type, Colorado, 1982

Ownership class	Volume class (cu ft/acre)	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
<hr/>						
<div>----- Thousand cubic feet -----</div>						
State:	0 - 500	244	98	191	(²)	533
	500 - 1,000	42	28	45	--	115
	1,000+	133	7	-1	1	140
	All classes	419	133	235	1	788
Private:	0 - 500	3,552	1,116	3,552	7	8,227
	500 - 1,000	1,391	404	1,372	--	3,167
	1,000+	2,931	142	-44	22	3,051
	All classes	7,874	1,662	4,880	29	14,445
All owners:	0 - 500	3,796	1,214	3,743	7	8,760
	500 - 1,000	1,433	432	1,417	--	3,282
	1,000+	3,064	149	-45	23	3,191
	All classes	8,293	1,795	5,115	30	15,233

¹Does not include timber species in woodland forest types.

²Less than 0.5 thousand cubic feet.

Table 15--Net dead volume on State and privately owned woodland by ownership class, site class, and forest type, Colorado, 1983

Ownership class	Site class	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
----- Thousand cubic feet -----						
State:	High site	3,644	493	516	24	4,677
	Low site	1,360	94	110	--	1,564
	All classes	5,004	587	626	24	6,241
Private:	High site	72,077	7,910	10,060	495	90,542
	Low site	31,598	6,613	1,207	--	39,418
	All classes	103,675	14,523	11,267	495	129,960
All owners:	High site	75,721	8,403	10,576	519	95,219
	Low site	32,958	6,707	1,317	--	40,982
	All classes	108,679	15,110	11,893	519	136,201

¹Does not include timber species in woodland forest types.

Table 16--Net dead volume on State and privately owned woodland by ownership class, volume class, and forest type, Colorado, 1983

Ownership class	Volume class (cu ft/acre)	Forest type				
		Pinyon-juniper	Juniper	Oak	Other	All types ¹
		----- Thousand cubic feet -----				
State:						
	0 - 500	1,101	368	239	--	1,708
	500 - 1,000	2,336	109	104	--	2,549
	1,000+	1,567	110	283	24	1,984
	All classes	5,004	587	626	24	6,241
Private:						
	0 - 500	17,484	9,995	6,284	--	33,763
	500 - 1,000	35,580	2,150	2,392	--	40,122
	1,000+	50,610	2,379	2,591	495	56,075
	All classes	103,674	14,524	11,267	495	129,960
All owners:						
	0 - 500	18,585	10,363	6,523	--	35,471
	500 - 1,000	37,916	2,259	2,496	--	42,671
	1,000+	52,177	2,489	2,874	519	58,059
	All classes	108,678	15,111	11,893	519	136,201

¹Does not include timber species in woodland forest types.

Table 17--Number of trees on State and privately owned woodland by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)																All classes
	1.0- 2.9	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
	Thousand trees																
State:																	
Pinyon	4,219	2,340	2,046	1,629	1,001	595	417	99	21	135	12	21	--	9	--	--	12,544
Juniper	1,856	1,200	1,250	1,407	864	843	633	555	447	167	171	90	146	79	127	--	9,835
Oak	37,711	11,307	1,096	128	94	156	83	--	--	--	--	--	--	--	--	--	50,575
Other	858	58	28	16	14	9	--	--	--	--	--	--	--	--	4	--	987
All species ¹	44,644	14,905	4,420	3,180	1,973	1,603	1,133	654	468	302	183	111	146	88	131	--	73,941
Private:																	
Pinyon	81,556	46,478	37,772	26,750	15,215	8,733	5,731	2,348	563	960	442	104	--	82	--	--	226,734
Juniper	31,326	21,068	20,203	20,266	15,471	15,413	10,863	10,959	7,179	4,112	3,255	2,196	1,910	1,119	2,058	--	167,398
Oak	702,210	231,737	20,641	2,448	1,051	1,221	635	--	--	--	--	--	--	--	--	--	959,943
Other	9,887	1,960	912	482	570	380	--	--	--	--	--	--	--	--	69	--	14,260
All species ¹	824,979	301,243	79,528	49,946	32,307	25,747	17,229	13,307	7,742	5,072	3,697	2,300	1,910	1,201	2,127	--	1,368,335
All owners:																	
Pinyon	85,775	48,818	39,818	28,379	16,216	9,328	6,148	2,447	584	1,095	454	125	--	91	--	--	239,278
Juniper	33,182	22,268	21,453	21,673	16,335	16,256	11,496	11,514	7,626	4,279	3,426	2,286	2,056	1,198	2,185	--	177,233
Oak	739,921	243,044	21,737	2,576	1,145	1,377	718	--	--	--	--	--	--	--	--	--	1,010,518
Other	10,745	2,018	940	498	584	389	--	--	--	--	--	--	--	--	73	--	15,247
All species ¹	869,623	316,148	83,948	53,126	34,280	27,350	18,362	13,961	8,210	5,374	3,880	2,411	2,056	1,289	2,258	--	1,442,276

¹Does not include timber species in woodland forest types.

Table 18--Net volume on State and privately owned woodland by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)														All classes
	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+	
----- Thousand cubic feet -----															
State:															
Pinyon	665	2,140	3,741	3,931	3,951	3,949	1,279	266	1,811	254	1,086	--	496	--	23,569
Juniper	231	670	1,687	1,814	2,820	2,701	4,057	2,918	1,443	2,080	1,321	4,223	1,120	2,840	29,925
Oak	3,184	973	276	536	1,260	810	--	--	--	--	--	--	--	--	7,039
Other	9	14	13	--	--	--	--	--	--	--	--	--	--	244	280
All species ¹	4,089	3,797	5,717	6,281	8,031	7,460	5,336	3,184	3,254	2,334	2,407	4,223	1,616	3,084	60,813
Private:															
Pinyon	12,149	37,645	59,346	59,393	56,559	59,282	30,826	9,653	14,101	10,654	5,411	--	4,733	--	359,752
Juniper	4,388	11,621	24,384	33,621	55,774	49,103	83,914	52,576	43,043	45,594	34,200	46,057	18,959	54,034	557,268
Oak	64,756	17,942	5,133	5,532	9,884	6,174	--	--	--	--	--	--	--	--	109,421
Other	321	415	392	--	--	--	--	--	--	--	--	--	--	4,947	6,075
All species ¹	81,614	67,623	89,255	98,546	122,217	114,740	114,559	62,229	57,144	56,248	39,611	46,057	23,692	58,981	1,032,516
All owners:															
Pinyon	12,814	39,785	63,087	63,324	60,510	63,231	32,105	9,919	15,912	10,908	6,497	--	5,229	--	383,321
Juniper	4,619	12,291	26,071	35,435	58,594	51,804	87,971	55,494	44,486	47,674	35,521	50,280	20,079	56,874	587,193
Oak	67,940	18,915	5,409	6,068	11,144	6,984	--	--	--	--	--	--	--	--	116,460
Other	330	429	405	--	--	--	--	--	--	--	--	--	--	5,191	6,355
All species ¹	85,703	71,420	94,972	104,827	130,248	122,019	120,076	65,413	60,398	58,582	42,013	50,280	25,308	62,065	1,093,329

¹Does not include timber species in woodland forest types.

Table 19--Net annual growth on State and privately owned woodland by ownership class, species, and diameter class, Colorado, 1982

Ownership class and species	Diameter class (inches at root collar)																All classes
	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+			
	Thousand cubic feet																
State:																	
Pinyon	43	58	86	64	52	42	13	2	11	-112	4	--	3	--			266
Juniper	9	23	45	33	38	25	37	20	8	11	5	17	3	6			280
Oak	209	1	6	8	14	4	--	--	--	--	--	--	--	--			242
Other	-1	--	(1)	--	--	--	--	--	--	--	--	--	--	1			--
All species ²	260	82	137	105	104	71	50	22	19	-101	9	17	6	7			788
Private:																	
Pinyon	739	937	1,284	852	629	643	309	86	91	-1,005	18	--	27	--			4,610
Juniper	240	349	599	541	619	401	669	342	247	263	131	182	55	116			4,754
Oak	4,603	166	84	81	109	30	--	--	--	--	--	--	--	--			5,073
Other	-22	-2	9	--	--	--	--	--	--	--	--	--	--	22			7
All species ²	5,560	1,450	1,976	1,474	1,357	1,074	978	428	338	-742	149	182	82	138			14,444
All owners:																	
Pinyon	782	995	1,370	916	681	685	322	88	102	-1,117	22	--	30	--			4,876
Juniper	249	372	644	574	657	426	706	362	255	274	136	199	58	122			5,034
Oak	4,812	167	90	89	123	34	--	--	--	--	--	--	--	--			5,315
Other	-23	-2	9	--	--	--	--	--	--	--	--	--	--	23			7
All species ²	5,820	1,532	2,113	1,579	1,461	1,145	1,028	450	357	-843	158	199	88	145			15,232

¹Less than 0.5 thousand acres.

²Does not include timber species in woodland forest types.

Table 20--Net dead volume on State and privately owned woodland by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)															All classes
	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
----- Thousand cubic feet -----																
State:																
Pinyon	6	96	270	458	491	310	184	19	--	576	--	--	295	--	2,705	
Juniper	10	24	120	176	176	183	221	169	105	147	246	21	579	690	2,867	
Oak	317	203	85	25	--	--	--	--	--	--	--	--	--	--	630	
Other	9	7	2	--	--	--	--	--	--	--	--	--	--	24	42	
All species ¹	342	330	477	659	667	493	405	188	105	723	246	21	874	714	6,244	
Private:																
Pinyon	476	2,401	4,032	11,329	6,012	4,381	7,405	1,378	--	5,515	--	--	2,298	--	45,227	
Juniper	271	752	3,823	4,263	9,779	4,324	8,295	9,908	5,307	6,240	6,778	570	4,301	7,967	72,578	
Oak	6,462	3,590	805	282	--	--	--	--	--	--	--	--	--	--	11,139	
Other	262	200	57	--	--	--	--	--	--	--	--	--	--	495	1,014	
All species ¹	7,471	6,943	8,717	15,874	15,791	8,705	15,700	11,286	5,307	11,755	6,778	570	6,599	8,462	129,958	
All owners:																
Pinyon	482	2,497	4,302	11,787	6,503	4,691	7,589	1,397	--	6,091	--	--	2,593	--	47,932	
Juniper	281	776	3,943	4,439	9,955	4,507	8,516	10,077	5,412	6,387	7,024	591	4,880	8,657	75,445	
Oak	6,779	3,793	890	307	--	--	--	--	--	--	--	--	--	--	11,769	
Other	271	207	59	--	--	--	--	--	--	--	--	--	--	519	1,056	
All species ¹	7,813	7,273	9,194	16,533	16,458	9,198	16,105	11,474	5,412	12,478	7,024	591	7,473	9,176	136,202	

¹Does not include timber species in woodland forest types.

Table 21--Number of pinyon Christmas trees on State and privately owned woodland by ownership class, height class, and grade class, Colorado, 1983

Ownership class	Height class (feet)	Grade class			All grades
		Premium	Standard	Utility	

- - - - - Thousand trees - - - - -

State:					
	0 - 5	0	323	1,317	1,640
	6 - 10	45	727	623	1,395
	11 - 12	6	67	173	246
	All classes	51	1,117	2,113	3,281
Private:					
	0 - 5	89	5,114	24,856	30,059
	6 - 10	2,689	15,557	12,746	30,992
	11 - 12	351	1,396	3,700	5,447
	All classes	3,129	22,067	41,302	66,498
All owners:					
	0 - 5	89	5,437	26,173	31,699
	6 - 10	2,734	16,284	13,369	32,387
	11 - 12	357	1,463	3,873	5,693
	All classes	3,180	23,184	43,415	69,779

Table 22--Number of fenceposts on State and privately owned woodland by ownership class, type of post, and species, Colorado, 1983

Ownership class	Type of post	Species			All species
		Pinyon	Juniper	Oak	

- - - - - Thousand fenceposts - - - - -

State:					
	Line	2,305	4,699	156	7,160
	Corner	1,252	2,193	14	3,459
	All posts	3,557	6,892	170	10,619
Private:					
	Line	25,954	66,056	5,336	97,346
	Corner	14,050	36,442	272	50,764
	All posts	40,004	102,498	5,608	148,110
All owners:					
	Line	28,259	70,755	5,492	104,506
	Corner	15,302	38,635	286	54,223
	All posts	43,561	109,390	5,778	158,729

Table 23--Area of State and privately owned woodland on less than 30 percent slope by ownership class, site class, and forest type, Colorado, 1983

Ownership class	Site class	Forest type				All types
		Pinyon-juniper	Juniper	Oak	Other	
<hr/>						
<div>- - - - - Thousand acres - - - - -</div>						
State:	High site	64	21	14	(1)	99
	Low site	4	6	8	(1)	18
	All classes	68	27	22	(1)	117
Private:	High site	989	272	315	3	1,579
	Low site	155	53	154	10	372
	All classes	1,144	325	469	13	1,951
All owners:	High site	1,053	293	329	3	1,678
	Low site	159	59	162	10	390
	All classes	1,212	352	491	13	2,068

¹Less than 0.5 thousand acres.

Table 24--Area of State and privately owned woodland on less than 30 percent slope by ownership class, volume class, and forest type, Colorado, 1983

Ownership class	Volume class (cu ft/acre)	Forest type				All types
		Pinyon- juniper	Juniper	Oak	Other	
<hr/>						
<div>----- Thousand acres -----</div>						
State:	0 - 500	45	24	19	(1)	88
	500 - 1,000	17	3	1	--	21
	1,000+	6	--	2	(1)	8
	All classes	68	27	22	(1)	117
Private:	0 - 500	643	281	429	10	1,363
	500 - 1,000	260	43	25	--	328
	1,000+	242	--	15	3	260
	All classes	1,145	324	469	13	1,951
All owners:	0 - 500	688	305	448	10	1,451
	500 - 1,000	277	46	26	--	349
	1,000+	248	--	17	3	268
	All classes	1,213	351	491	13	2,068

¹Less than 0.5 thousand acres.

Table 25--Net volume on State and privately owned woodland on less than 30 percent slope by ownership class, site class, and forest type, Colorado, 1983

Ownership class	Site class	Forest type				
		Pinyon-juniper	Juniper	Oak	Other	All types ¹
<hr/>						
<div>----- Thousand cubic feet -----</div>						
State:	High site	28,363	5,672	2,630	244	36,909
	Low site	1,964	316	2,903	2	5,185
	All classes	30,327	5,988	5,533	246	42,094
Private:	High site	506,916	71,444	51,576	4,946	634,882
	Low site	105,491	2,994	27,609	112	136,206
	All classes	612,407	74,438	79,185	5,058	771,088
All owners:	High site	535,279	77,116	54,206	5,190	671,791
	Low site	107,455	3,310	30,512	114	141,391
	All classes	642,734	80,426	84,718	5,304	813,182

¹Does not include timber species in woodland forest types.

Table 26--Net volume on State and privately owned woodland on less than 30 percent slope by ownership class, volume class, and forest type, Colorado, 1983

Ownership class	Volume class (cu ft/acre)	Forest type				
		Pinyon- juniper	Juniper	Oak	Other	All types ¹
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¹Does not include timber species in woodland forest types.

Table 27--Net annual growth on State and privately owned woodland on less than 30 percent slope by ownership class, site class, and forest type, Colorado, 1982

Ownership class	Site class	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
----- Thousand cubic feet -----						
State:	High site	381	111	106	1	599
	Low site	-104	3	48	(²)	-53
	All classes	277	114	154	1	546
Private:	High site	6,084	1,320	2,939	22	10,365
	Low site	-29	25	587	7	590
	All classes	6,055	1,345	3,526	29	10,955
All owners:	High site	6,465	1,431	3,045	23	10,964
	Low site	-133	28	635	7	537
	All classes	6,332	1,459	3,680	30	11,501

¹Does not include timber species in woodland forest types.

²Less than 0.5 thousand acres.

Table 28--Net annual growth on State and privately owned woodland on less than 30 percent slope by ownership class, volume class, and forest type, Colorado, 1982

Ownership class	Volume class (cu ft/acre)	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
----- Thousand cubic feet -----						
State:	0 - 500	209	94	123	(²)	426
	500 - 1,000	-21	20	33	--	32
	1,000+	89	--	-2	1	88
	All classes	277	114	154	1	546
Private:	0 - 500	2,895	1,028	2,290	7	6,220
	500 - 1,000	568	316	1,281	--	2,165
	1,000+	2,592	--	-44	22	2,570
	All classes	6,055	1,344	3,527	29	10,955
All owners:	0 - 500	3,104	1,122	2,413	7	6,646
	500 - 1,000	547	336	1,314	--	2,197
	1,000+	2,681	--	-46	23	2,658
	All classes	6,332	1,458	3,681	30	11,501

¹Does not include timber species in woodland forest types.

²Less than 0.5 thousand acres.

Table 29--Net dead volume on State and privately owned woodland on less than 30 percent slope by ownership class, site class, and forest type, Colorado, 1983

Ownership class	Site class	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
<hr/>						
----- <u>Thousand cubic feet</u> -----						
State:						
	High site	2,327	381	406	24	3,138
	Low site	625	89	105	0	819
	All classes	2,952	470	511	24	3,957
Private:						
	High site	56,687	4,791	7,782	495	69,755
	Low site	20,250	791	1,163	0	22,204
	All classes	76,937	5,582	8,945	495	91,959
All owners:						
	High site	59,014	5,172	8,188	519	72,893
	Low site	20,875	880	1,268	0	23,023
	All classes	79,889	6,052	9,456	519	95,916

¹Does not include timber species in woodland forest types.

Table 30--Net dead volume on State and privately owned woodland on less than 30 percent slope by ownership class, volume class, and forest type, Colorado, 1983

Ownership class	Volume class (cu ft/acre)	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
<hr/>						
----- Thousand cubic feet -----						
State:						
	0 - 500	762	366	177	--	1,305
	500 - 1,000	1,657	104	51	--	1,812
	1,000+	533	--	283	24	840
	All classes	2,952	470	511	24	3,957
Private:						
	0 - 500	13,421	4,117	4,385	--	21,923
	500 - 1,000	22,447	1,466	1,969	--	25,882
	1,000+	41,068	--	2,591	495	44,154
	All classes	76,936	5,583	8,945	495	91,959
All owners:						
	0 - 500	14,183	4,483	4,562	--	23,228
	500 - 1,000	24,104	1,570	2,020	--	27,694
	1,000+	41,601	--	2,874	519	44,994
	All classes	79,888	6,053	9,456	519	95,916

¹Does not include timber species in woodland forest types.

Table 31--Number of trees on State and privately owned woodland on less than 30 percent slope by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)															All classes
	1.0- 2.9	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+	
	----- Thousand trees -----															
State:																
Pinyon	2,582	1,597	1,349	1,205	592	316	201	67	7	15	7	--	--	9	--	7,947
Juniper	1,527	1,043	1,093	1,170	726	596	447	416	251	111	130	42	119	63	50	7,784
Oak	28,523	7,511	779	128	94	156	83	--	--	--	--	--	--	--	--	37,274
Other	92	58	28	16	14	9	--	--	--	--	--	--	--	--	3	220
All species ¹	32,724	10,209	3,249	2,519	1,426	1,077	731	483	258	126	137	421	119	72	53	53,225
Private:																
Pinyon	46,868	34,080	28,384	19,470	10,066	5,463	3,896	1,662	386	203	219	--	--	82	--	150,779
Juniper	27,275	18,114	17,104	16,256	13,033	11,746	8,422	9,013	4,604	3,255	2,336	1,170	1,573	829	998	135,728
Oak	578,196	161,057	13,709	2,448	1,051	1,221	635	--	--	--	--	--	--	--	--	758,317
Other	2,095	1,960	912	481	570	380	--	--	--	--	--	--	--	--	69	6,467
All species ¹	654,434	215,211	60,109	38,655	24,720	18,810	12,953	10,675	4,990	3,458	2,555	1,170	1,573	911	1,067	1,051,291
All owners:																
Pinyon	49,450	35,677	29,733	20,675	10,658	5,779	4,097	1,729	393	218	226	--	--	91	--	158,726
Juniper	28,802	19,157	18,197	17,426	13,759	12,342	8,869	9,429	4,855	3,366	2,466	1,212	1,692	892	1,048	143,512
Oak	606,719	168,568	14,488	2,576	1,145	1,377	718	--	--	--	--	--	--	--	--	795,591
Other	2,187	2,018	940	497	584	389	--	--	--	--	--	--	--	--	72	6,687
All species ¹	687,158	225,420	63,358	41,174	26,146	19,887	13,684	11,158	5,248	3,584	2,692	1,212	1,692	983	1,120	1,104,516

¹Does not include timber species in woodland forest types.

Table 32--Net volume on State and privately owned woodland on less than 30 percent slope by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)															All classes
	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
----- Thousand cubic feet -----																
State:																
Pinyon	447	1,450	2,797	2,464	2,083	2,057	971	60	400	112	--	--	496	--	13,337	
Juniper	199	604	1,466	1,567	2,032	1,881	3,208	2,007	1,066	1,793	629	3,960	1,120	1,313	22,845	
Oak	2,069	681	276	536	1,260	810	--	--	--	--	--	--	--	--	5,632	
Other	9	14	13	--	--	--	--	--	--	--	--	--	--	244	280	
All species ¹	2,724	2,749	4,552	4,567	5,375	4,748	4,179	2,067	1,466	1,905	629	3,960	1,616	1,557	42,094	
Private:																
Pinyon	8,894	28,752	43,425	40,656	36,085	42,017	23,484	7,056	4,710	4,892	--	--	4,733	--	244,704	
Juniper	3,752	10,117	20,465	29,311	43,013	39,345	73,236	38,083	36,302	36,476	19,331	42,789	16,510	28,565	437,295	
Oak	43,976	12,315	5,133	5,532	9,884	6,174	--	--	--	--	--	--	--	--	83,014	
Other	321	415	393	--	--	--	--	--	--	--	--	--	--	4,946	6,075	
All species ¹	56,943	51,599	69,416	75,499	88,982	87,536	96,720	45,139	41,012	41,368	19,331	42,789	21,243	33,511	771,088	
All owners:																
Pinyon	9,341	30,202	46,222	43,120	38,168	44,074	24,455	7,116	5,110	5,004	--	--	5,229	--	258,041	
Juniper	3,951	10,721	21,931	30,878	45,045	41,226	76,444	40,090	37,368	38,269	19,960	46,749	17,630	29,878	460,140	
Oak	46,045	12,996	5,409	6,068	11,144	6,984	--	--	--	--	--	--	--	--	88,646	
Other	330	429	406	--	--	--	--	--	--	--	--	--	--	5,190	6,355	
All species ¹	59,667	54,348	73,968	80,066	94,357	92,284	100,899	47,206	42,478	43,273	19,960	46,749	22,859	35,068	813,182	

¹Does not include timber species in woodland forest types.

Table 33--Net annual growth on State and privately owned woodland on less than 30 percent slope by ownership class, species, and diameter class, Colorado, 1982

Ownership class and species	Diameter class (inches at root collar)															All classes
	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
----- Thousand cubic feet -----																
State:																
Pinyon	28	43	65	45	32	28	10	(1)	3	-114	--	--	3	--	143	
Juniper	9	21	41	30	31	20	32	16	6	10	2	16	3	3	240	
Oak	135	-5	6	8	14	4	--	--	--	--	--	--	--	--	162	
Other	-1	--	1	--	--	--	--	--	--	--	--	--	--	1	1	
All species ²	171	59	113	83	77	52	42	16	9	-104	2	16	6	4	546	
Private:																
Pinyon	501	744	942	616	517	528	232	67	38	-1,056	--	--	27	--	3,156	
Juniper	229	323	534	495	517	336	611	263	218	230	77	167	41	57	4,098	
Oak	3,335	55	84	81	109	30	--	--	--	--	--	--	--	--	3,694	
Other	-22	-2	9	--	--	--	--	--	--	--	--	--	--	22	7	
All species ²	4,043	1,120	1,569	1,192	1,143	894	843	330	256	-826	77	167	68	79	10,955	
All owners:																
Pinyon	529	787	1,007	661	549	556	242	67	41	-1,170	--	--	30	--	3,299	
Juniper	238	344	575	525	548	356	643	279	224	240	79	183	44	60	4,338	
Oak	3,470	50	90	89	123	34	--	--	--	--	--	--	--	--	3,856	
Other	-23	-2	10	--	--	--	--	--	--	--	--	--	--	23	8	
All species ²	4,214	1,179	1,682	1,275	1,220	946	885	346	265	-930	79	183	74	83	11,501	

¹Less than 0.5 thousand acres.

²Does not include timber species in woodland forest types.

Table 34--Net dead volume on State and privately owned woodland on less than 30 percent slope by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)															All classes
	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
----- Thousand cubic feet -----																
State:																
Pinyon	4	95	177	295	229	236	119	5	--	576	--	--	295	--	--	2,031
Juniper	9	24	116	152	140	158	200	139	26	128	62	8	78	133	--	1,373
Oak	214	187	85	25	--	--	--	--	--	--	--	--	--	--	--	511
Other	9	7	2	--	--	--	--	--	--	--	--	--	--	24	--	42
All species ¹	236	313	380	472	369	394	319	144	26	704	62	8	373	157	--	3,957
Private:																
Pinyon	402	2,327	2,418	7,708	3,462	3,032	1,263	104	--	5,515	--	--	2,298	--	--	28,529
Juniper	231	735	2,677	3,534	8,406	3,781	6,220	7,886	4,224	5,777	4,223	399	1,438	4,120	--	53,651
Oak	4,309	3,370	805	282	--	--	--	--	--	--	--	--	--	--	--	8,766
Other	262	200	56	--	--	--	--	--	--	--	--	--	--	495	--	1,013
All species ¹	5,204	6,632	5,956	11,524	11,868	6,813	7,483	7,990	4,224	11,292	4,223	399	3,736	4,615	--	91,959
All owners:																
Pinyon	406	2,422	2,595	8,003	3,691	3,268	1,382	109	--	6,091	--	--	2,593	--	--	30,560
Juniper	240	759	2,793	3,686	8,546	3,939	6,420	8,025	4,250	5,905	4,285	407	1,516	4,253	--	55,024
Oak	4,523	3,557	890	307	--	--	--	--	--	--	--	--	--	--	--	9,277
Other	271	207	58	--	--	--	--	--	--	--	--	--	--	519	--	1,055
All species ¹	5,440	6,945	6,336	11,996	12,237	7,207	7,802	8,134	4,250	11,996	4,285	407	4,109	4,772	--	95,916

¹Does not include timber species in woodland forest types.

Table 35--Number of pinyon Christmas trees on State and privately owned woodland on less than 30 percent slope by ownership class, height class, and grade class, Colorado, 1983

Ownership class	Height class (feet)	Grade class			All grades
		Premium	Standard	Utility	
----- Thousand trees -----					
State:	0 - 5	--	220	889	1,109
	6 - 10	18	500	554	1,072
	11 - 12	6	37	155	198
	All classes	24	757	1,598	2,379
Private:	0 - 5	89	3,421	13,875	17,385
	6 - 10	962	8,122	11,202	20,286
	11 - 12	351	692	2,818	3,861
	All classes	1,402	12,235	27,895	41,532
All owners:	0 - 5	89	3,641	14,764	18,494
	6 - 10	980	8,622	11,756	21,358
	11 - 12	357	729	2,973	4,059
	All classes	1,426	12,992	29,493	43,911

Table 36--Number of fenceposts on State and privately owned woodland on less than 30 percent slope by ownership class, type of post, and species, Colorado, 1983

Ownership class	Type of post	Species			All species
		Pinyon	Juniper	Oak	
- - - - - <u>Thousand fenceposts</u> - - - - -					
State:	Line	1,514	3,848	117	5,479
	Corner	786	1,918	14	2,718
	All posts	2,300	5,766	131	8,197
Private:	Line	16,126	52,899	3,833	72,858
	Corner	8,501	31,475	272	40,248
	All posts	24,627	84,374	4,105	113,106
All owners:	Line	17,640	56,747	3,950	78,337
	Corner	9,287	33,393	286	42,966
	All posts	26,927	90,140	4,236	121,303

Table 37--Area of State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, site class, and forest type, Colorado, 1983

Ownership class	Site class	Forest type				
		Pinyon-juniper	Juniper	Oak	Other	All types
<hr/>						
<div>- - - - - Thousand acres - - - - -</div>						
State:	High site	64	21	12	(¹)	97
	Low site	4	4	8	(¹)	16
	All classes	68	25	20	(¹)	113
Private:	High site	973	272	289	3	1,537
	Low site	108	37	149	10	304
	All classes	1,081	309	438	13	1,841
All owners:	High site	1,037	293	301	3	1,634
	Low site	112	41	157	10	320
	All classes	1,149	334	458	13	1,954

¹Less than 0.5 thousand acres.

Table 38--Area of State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, volume class, and forest type, Colorado, 1983

Ownership class	Volume class (cu ft/acre)	Forest type				
		Pinyon-juniper	Juniper	Oak	Other	All types
<hr/>						
<div>----- Thousand acres -----</div>						
State:						
	0 - 500	45	22	17	(1)	84
	500 - 1,000	17	3	1	--	21
	1,000+	6	--	2	(1)	8
	All classes	68	25	20	(1)	113
Private:						
	0 - 500	623	266	398	10	1,297
	500 - 1,000	248	43	25	--	316
	1,000+	210	--	15	3	228
	All classes	1,081	309	438	13	1,841
All owners:						
	0 - 500	668	288	415	10	1,381
	500 - 1,000	265	46	26	--	337
	1,000+	216	--	17	3	236
	All classes	1,149	334	458	13	1,954

¹Less than 0.5 thousand acres.

Table 39--Net volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, site class, and forest type, Colorado, 1983

Ownership class	Site class	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
<hr/>						
		----- Thousand cubic feet -----				
State:						
	High site	28,363	5,672	2,332	244	36,611
	Low site	1,964	58	2,845	3	4,870
	All classes	30,327	5,730	5,177	247	41,481
Private:						
	High site	492,586	71,444	48,745	4,946	617,721
	Low site	80,801	546	27,153	112	108,612
	All classes	573,387	71,990	75,898	5,058	726,333
All owners:						
	High site	520,949	77,116	51,077	5,190	654,332
	Low site	82,765	604	29,998	115	113,482
	All classes	603,714	77,720	81,075	5,305	767,814

¹Does not include timber species in woodland forest types.

Table 40--Net volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, volume class, and forest type, Colorado 1983

Ownership class	Volume class (cu ft/acre)	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
----- Thousand cubic feet -----						
State:	0 - 500	11,215	4,119	2,023	3	17,360
	500 - 1,000	10,973	1,611	328	--	12,912
	1,000+	8,139	--	2,826	244	11,209
	All classes	30,327	5,730	5,177	247	41,481
Private:	0 - 500	150,347	48,343	39,996	112	238,798
	500 - 1,000	159,173	23,647	12,729	--	195,549
	1,000+	263,867	--	23,173	4,946	291,986
	All classes	573,387	71,990	75,898	5,058	726,333
All owners:	0 - 500	161,562	52,462	42,019	115	256,158
	500 - 1,000	170,146	25,258	13,057	--	208,461
	1,000+	272,006	--	25,999	5,190	303,195
	All classes	603,714	77,720	81,075	5,305	767,814

¹Does not include timber species in woodland forest types.

Table 41--Net annual growth on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, site class, and forest type, Colorado, 1982

Ownership class	Site class	Forest type				All types ¹
		Pinyon-juniper	Juniper	Oak	Other	
----- Thousand cubic feet -----						
State:	High site	380	112	92	1	585
	Low site	-103	1	46	(²)	-56
	All classes	277	113	138	1	529
Private:	High site	6,018	1,320	2,721	22	10,081
	Low site	-346	11	571	7	243
	All classes	5,672	1,331	3,292	29	10,324
All owners:	High site	6,398	1,432	2,813	23	10,666
	Low site	-449	12	617	7	187
	All classes	5,949	1,444	3,430	30	10,853

¹Does not include timber species in woodland forest types.

²Less than 0.5 thousand acres.

Table 42--Net annual growth on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, volume class, and forest type, Colorado, 1982

Ownership class	Volume class (cu ft/acre)	Forest type				
		Pinyon-juniper	Juniper	Oak	Other	All types ¹
----- Thousand cubic feet -----						
State:	0 - 500	209	92	107	(²)	408
	500 - 1,000	-21	21	33	--	33
	1,000+	89	--	-2	1	88
	All classes	277	113	138	1	529
Private:	0 - 500	2,741	1,014	2,056	7	5,818
	500 - 1,000	529	316	1,281	--	2,126
	1,000+	2,402	--	-44	22	2,380
	All classes	5,672	1,330	3,293	29	10,324
All owners:	0 - 500	2,950	1,106	2,163	7	6,226
	500 - 1,000	508	337	1,314	--	2,159
	1,000+	2,491	--	-46	23	2,468
	All classes	5,949	1,443	3,431	30	10,853

¹Does not include timber species in woodland forest types.

²Less than 0.5 thousand acres.

Table 43--Net dead volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, site class, and forest type, Colorado, 1983

Ownership class	Site class	Forest type				
		Pinyon-juniper	Juniper	Oak	Other	All types ¹
<hr/>						
<hr/>						
----- Thousand cubic feet -----						
State:						
	High site	2,327	381	404	24	3,136
	Low site	625	62	103	--	790
	All classes	2,952	443	507	24	3,926
Private:						
	High site	55,058	4,791	7,760	495	68,104
	Low site	14,174	577	1,148	--	15,899
	All classes	69,232	5,368	8,908	495	84,003
All owners:						
	High site	57,385	5,172	8,164	519	71,240
	Low site	14,799	639	1,251	--	16,689
	All classes	72,184	5,811	9,415	519	87,929

¹Does not include timber species in woodland forest types.

Table 44--Net dead volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, volume class, and forest type, Colorado, 1983

Ownership class	Volume class (cu ft/acre)	Forest type				
		Pinyon-juniper	Juniper	Oak	Other	All types ¹
----- Thousand cubic feet -----						
State:	0 - 500	762	339	173	--	1,274
	500 - 1,000	1,657	104	51	--	1,812
	1,000+	533	--	283	24	840
	All classes	2,952	443	507	24	3,926
Private:	0 - 500	12,934	3,902	4,348	--	21,184
	500 - 1,000	21,713	1,466	1,969	--	25,148
	1,000+	34,585	--	2,591	495	37,671
	All classes	69,232	5,368	8,908	495	84,003
All owners:	0 - 500	13,696	4,241	4,521	--	22,458
	500 - 1,000	23,370	1,570	2,020	--	26,960
	1,000+	35,118	--	2,874	519	38,511
	All classes	72,184	5,811	9,415	519	87,929

¹Does not include timber species in woodland forest types.

Table 45--Number of trees on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)																All classes
	1.0- 2.9	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
----- Thousand trees -----																	
State:																	
Pinyon	2,582	1,597	1,349	1,205	592	316	201	67	7	15	7	0	0	9	--	--	7,947
Juniper	1,527	1,043	1,093	1,159	726	576	447	416	220	111	124	42	119	63	50	--	7,716
Oak	26,355	6,695	707	128	79	156	83	--	--	--	--	--	--	--	--	--	34,203
Other	92	58	28	16	14	9	--	--	--	--	--	--	--	--	3	--	220
All species ¹	30,556	9,393	3,177	2,508	1,411	1,057	731	483	227	126	131	42	119	72	53	--	50,086
Private:																	
Pinyon	45,830	33,198	27,498	18,992	10,066	5,463	3,896	1,503	386	203	219	0	0	82	--	--	147,336
Juniper	22,010	17,116	15,698	16,001	12,043	10,751	7,358	8,853	4,363	2,870	1,997	1,057	1,254	829	998	--	123,198
Oak	561,184	150,782	12,934	2,448	938	1,221	635	--	--	--	--	--	--	--	--	--	730,142
Other	2,095	1,960	912	481	570	380	--	--	--	--	--	--	--	--	69	--	6,467
All species ¹	631,119	203,056	57,042	37,922	23,617	17,815	11,889	10,356	4,749	3,073	2,216	1,057	1,254	911	1,067	--	1,007,143
All owners:																	
Pinyon	48,412	34,795	28,847	20,197	10,658	5,779	4,097	1,570	393	218	226	--	--	91	--	--	155,283
Juniper	23,537	18,159	16,791	17,160	12,769	11,327	7,805	9,769	4,583	2,981	2,121	1,099	1,373	892	1,048	--	130,914
Oak	587,539	157,477	13,641	2,576	1,017	1,377	718	--	--	--	--	--	--	--	--	--	764,345
Other	2,187	2,018	940	497	584	389	--	--	--	--	--	--	--	--	72	--	6,687
All species ¹	661,675	212,449	60,219	40,430	25,028	18,872	12,620	10,839	4,976	3,199	2,347	1,099	1,373	983	1,120	--	1,057,229

¹Does not include timber species in woodland forest types.

Table 46--Net volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)														29.0+	27.0- 28.9	25.0- 26.9	23.0- 24.9	21.0- 22.9	19.0- 20.9	17.0- 18.9	15.0- 16.9	13.0- 14.9	11.0- 12.9	9.0- 10.9	7.0- 8.9	5.0- 6.9	3.0- 4.9	All classes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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¹Does not include timber species in woodland forest types.

Table 45--Number of trees on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)																All classes
	1.0- 2.9	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
Thousand trees																	
State:																	
Pinyon	2,582	1,597	1,349	1,205	592	316	201	67	7	15	7	0	0	0	9	--	7,947
Juniper	1,527	1,043	1,093	1,159	726	576	447	416	220	111	124	42	119	63	50	--	7,716
Oak	26,355	6,695	707	128	79	156	83	--	--	--	--	--	--	--	--	--	34,203
Other	92	58	28	16	14	9	--	--	--	--	--	--	--	--	3	--	220
All species ¹	30,556	9,393	3,177	2,508	1,411	1,057	731	483	227	126	131	42	119	72	53	--	50,086
Private:																	
Pinyon	45,830	33,198	27,498	18,992	10,066	5,463	3,896	1,503	386	203	219	0	0	0	82	--	147,336
Juniper	22,010	17,116	15,698	16,001	12,043	10,751	7,358	8,853	4,363	2,870	1,997	1,057	1,254	829	998	--	123,198
Oak	561,184	150,782	12,934	2,448	938	1,221	635	--	--	--	--	--	--	--	--	--	730,142
Other	2,095	1,960	912	481	570	380	--	--	--	--	--	--	--	--	69	--	6,467
All species ¹	631,119	203,056	57,042	37,922	23,617	17,815	11,889	10,356	4,749	3,073	2,216	1,057	1,254	911	1,067	--	1,007,143
All owners:																	
Pinyon	48,412	34,795	28,847	20,197	10,658	5,779	4,097	1,570	393	218	226	--	--	--	91	--	155,283
Juniper	23,537	18,159	16,791	17,160	12,769	11,327	7,805	9,269	4,583	2,981	2,121	1,099	1,373	892	1,048	--	130,914
Oak	587,539	157,477	13,641	2,576	1,017	1,377	718	--	--	--	--	--	--	--	--	--	764,345
Other	2,187	2,018	940	497	584	389	--	--	--	--	--	--	--	--	72	--	6,687
All species ¹	661,675	212,449	60,219	40,430	25,028	18,872	12,620	10,839	4,976	3,199	2,347	1,099	1,373	983	1,120	--	1,057,229

¹Does not include timber species in woodland forest types.

Table 46--Net volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)														All classes
	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+	
----- Thousand cubic feet -----															
State:															
Pinyon	447	1,450	2,797	2,464	2,083	2,057	971	60	400	112	--	--	496	--	13,337
Juniper	199	604	1,460	1,567	1,995	1,881	3,208	1,865	1,066	1,721	629	3,960	1,120	1,313	22,588
Oak	1,821	640	276	469	1,260	810	--	--	--	--	--	--	--	--	5,276
Other	9	14	13	--	--	--	--	--	--	--	--	--	--	244	280
All species ¹	2,476	2,708	4,546	4,500	5,338	4,748	4,179	1,925	1,466	1,833	629	3,960	1,616	1,557	41,481
Private:															
Pinyon	8,676	28,127	42,338	40,656	36,085	42,017	20,325	7,056	4,710	4,892	--	--	4,733	--	239,615
Juniper	3,452	8,907	20,229	26,930	39,478	33,089	72,840	36,979	31,867	27,843	16,129	38,605	16,510	28,565	401,423
Oak	41,205	11,820	5,133	5,004	9,884	6,174	--	--	--	--	--	--	--	--	79,220
Other	321	415	393	--	--	--	--	--	--	--	--	--	--	4,946	6,075
All species ¹	53,654	49,269	68,093	72,590	85,447	81,280	93,165	44,035	36,577	32,735	16,129	38,605	21,243	33,511	726,333
All owners:															
Pinyon	9,123	29,577	45,135	43,120	38,168	44,074	21,296	7,116	5,110	5,004	--	--	5,229	--	252,952
Juniper	3,651	9,511	21,689	28,497	41,473	34,970	76,048	38,844	32,933	29,564	16,758	42,565	17,630	29,878	424,011
Oak	43,026	12,460	5,409	5,473	11,144	6,984	--	--	--	--	--	--	--	--	84,496
Other	330	429	406	--	--	--	--	--	--	--	--	--	--	5,190	6,355
All species ¹	56,130	51,977	72,639	77,090	90,785	86,028	97,344	45,960	38,043	34,568	16,758	42,565	22,859	35,068	767,814

¹Does not include timber species in woodland forest types.

Table 47--Net annual growth on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1982

Ownership class and species	Diameter class (inches at root collar)														All classes	
	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
	----- Thousand cubic feet -----															
State:																
Pinyon	28	44	65	45	32	27	10	(1)	3	-114	--	--	3	--	143	
Juniper	9	21	41	30	31	20	32	15	6	10	2	--	3	3	239	
Oak	121	-6	6	8	14	4	--	--	--	--	--	--	--	--	147	
Other	-1	--	(1)	--	--	--	--	--	--	--	--	--	--	1	--	
All species ²	157	59	112	83	77	51	42	15	9	-104	2	16	6	4	529	
Private:																
Pinyon	487	709	910	616	517	528	205	67	38	-1,056	--	--	27	--	3,048	
Juniper	188	293	527	462	500	310	609	258	195	178	58	154	41	57	3,830	
Oak	3,096	45	84	74	109	30	--	--	--	--	--	--	--	--	3,438	
Other	-22	-2	9	--	--	--	--	--	--	--	--	--	--	23	8	
All species ²	3,749	1,045	1,530	1,152	1,126	868	814	325	233	-878	58	154	68	80	10,324	
All owners:																
Pinyon	515	753	975	661	549	555	215	67	41	-1,170	--	--	30	--	3,191	
Juniper	197	314	568	492	531	330	641	273	201	188	60	170	44	60	4,069	
Oak	3,217	39	90	82	123	34	--	--	--	--	--	--	--	--	3,585	
Other	-23	-2	9	--	--	--	--	--	--	--	--	--	--	24	8	
All species ²	3,906	1,104	1,642	1,235	1,203	919	856	340	242	-982	60	170	74	84	10,853	

¹Less than 0.5 thousand acres.

²Does not include timber species in woodland forest types.

Table 48--Net dead volume on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, species, and diameter class, Colorado, 1983

Ownership class and species	Diameter class (inches at root collar)															All classes
	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
----- Thousand cubic feet -----																
State:																
Pinyon	5	95	177	295	229	236	119	5	--	576	--	--	295	--		2,032
Juniper	9	24	116	140	139	158	200	125	26	128	62	8	78	133		1,346
Oak	210	187	85	25	--	--	--	--	--	--	--	--	--	--		507
Other	9	6	2	--	--	--	--	--	--	--	--	--	--	24		41
All species ¹	233	312	380	460	368	394	319	130	26	704	62	8	373	157		3,926
Private:																
Pinyon	402	1,975	2,252	5,122	3,462	3,032	1,105	104	--	5,515	--	--	2,298	--		25,267
Juniper	231	575	2,580	3,023	7,307	3,611	6,220	6,096	3,815	5,777	4,063	170	1,438	4,120		49,026
Oak	4,245	3,365	805	282	--	--	--	--	--	--	--	--	--	--		8,697
Other	262	200	56	--	--	--	--	--	--	--	--	--	--	495		1,013
All species ¹	5,140	6,115	5,693	8,427	10,769	6,643	7,325	6,200	3,815	11,292	4,063	170	3,736	4,615		84,003
All owners:																
Pinyon	407	2,070	2,429	5,417	3,691	3,268	1,224	109	--	6,091	--	--	2,593	--		27,299
Juniper	240	599	2,696	3,163	7,446	3,769	6,420	6,221	3,841	5,905	4,125	178	1,516	4,253		50,372
Oak	4,455	3,552	890	307	--	--	--	--	--	--	--	--	--	--		9,204
Other	271	206	58	--	--	--	--	--	--	--	--	--	--	519		1,054
All species ¹	5,373	6,427	6,073	8,887	11,137	7,037	7,644	6,330	3,841	11,996	4,125	178	4,109	4,772		87,929

¹Does not include timber species in woodland forest types.

Table 49--Number of pinyon Christmas trees on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, height class, and grade class, Colorado, 1983

Ownership class	Height class (feet)	Grade class			All grades
		Premium	Standard	Utility	
----- Thousand trees -----					
State:	0 - 5	--	220	889	1,109
	6 - 10	18	500	554	1,072
	11 - 12	6	37	155	198
	All classes	24	757	1,598	2,379
Private:	0 - 5	89	3,421	13,875	17,385
	6 - 10	643	7,962	10,883	19,488
	11 - 12	351	580	2,706	3,637
	All classes	1,083	11,963	27,464	40,510
All owners:	0 - 5	89	3,641	14,764	18,494
	6 - 10	661	8,462	11,437	20,560
	11 - 12	357	617	2,861	3,835
	All classes	1,107	12,720	29,062	42,889

Table 50--Number of fenceposts on State and privately owned woodland on less than 30 percent slope and within 1 mile of a road by ownership class, type of post, and species, Colorado, 1983

Ownership class	Type of post	Species			All species
		Pinyon	Juniper	Oak	
- - - - - <u>Thousand fenceposts</u> - - - - -					
State:	Line	1,514	3,820	117	5,451
	Corner	786	1,918	14	2,718
	All posts	2,300	5,738	131	8,169
Private:	Line	16,126	50,817	3,625	70,568
	Corner	8,501	30,302	272	39,075
	All posts	24,627	81,119	3,897	109,643
All owners:	Line	17,640	54,637	3,742	76,019
	Corner	9,287	32,220	286	41,793
	All posts	26,927	86,857	4,028	117,812

Table 51--Area of State and privately owned woodland by county and ownership class, Colorado, 1983

County	Ownership class		
	State	Private	Total
----- <u>Thousand acres</u> -----			
Alamosa	0.2	3.3	3.5
Archuleta	0.5	126.2	126.7
Boulder	(¹)	1.5	1.5
Chaffee	1.1	18.9	20.0
Clear Creek	(¹)	0.8	0.8
Conejos	3.0	3.0	6.0
Costilla	--	82.2	82.2
Custer	0.5	16.1	16.6
Delta	1.1	54.7	55.8
Dolores	2.4	49.0	51.4
Douglas	0.4	25.5	25.9
Eagle	4.7	28.4	33.1
Elbert	0.1	2.2	2.3
El Paso	0.4	11.2	11.6
Fremont	14.4	112.3	126.7
Garfield	1.8	140.6	142.4
Gilpin	(¹)	1.9	1.9
Grand	2.4	5.1	7.5
Gunnison	0.6	34.5	35.1
Hinsdale	0.1	1.5	1.6
Huerfano	8.0	131.2	139.2
Jackson	1.5	4.7	6.2
Jefferson	(¹)	4.1	4.1
Lake	(¹)	1.0	1.0
La Plata	4.7	204.2	208.9
Larimer	0.9	5.3	6.2
Las Animas	48.3	564.8	613.1
Mesa	0.4	130.1	130.5
Mineral	0.1	0.8	0.9
Moffat	20.5	101.0	121.5
Montezuma	2.5	269.5	272.0
Montrose	2.8	102.9	105.7
Ouray	2.2	56.5	58.7
Park	0.2	3.8	4.0
Pitkin	0.4	18.4	18.8
Pueblo	8.4	66.1	74.5
Rio Blanco	8.0	74.6	82.6
Rio Grande	0.8	7.6	8.4
Routt	9.6	57.3	66.9
Saguache	1.9	23.8	25.7
San Juan	(¹)	0.9	0.9
San Miguel	5.8	72.5	78.3
Summit	(¹)	2.0	2.0
Teller	0.5	3.4	3.9
All counties	161.2	2,625.4	2,786.6

¹Less than 0.05 thousand acres.

Table 52--Net volume of State and privately owned woodland by county and ownership class, Colorado, 1983

County	Ownership class		Total
	State	Private	
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¹Less than 0.5 thousand cubic feet.

Table 53--Net annual growth of State and privately owned woodland by county and ownership class, Colorado, 1982

County	Ownership class		Total
	State	Private	
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	<hr/> <div>Thousand cubic feet</div> <hr/>		
Alamosa	1	11	12
Archuleta	4	862	866
Boulder	(1)	6	6
Chaffee	9	99	108
Clear Creek	(1)	4	4
Conejos	18	14	32
Costilla	--	273	273
Custer	1	79	80
Delta	4	358	362
Dolores	15	308	323
Douglas	2	162	164
Eagle	32	205	237
Elbert	(1)	10	10
El Paso	2	69	71
Fremont	67	455	522
Garfield	14	965	979
Gilpin	(1)	12	12
Grand	15	37	52
Gunnison	4	309	313
Hinsdale	1	11	12
Huerfano	52	818	870
Jackson	12	35	47
Jefferson	(1)	25	25
Lake	(1)	6	6
La Plata	21	1,162	1,183
Larimer	7	34	41
Las Animas	183	2,125	2,308
Mesa	4	926	930
Mineral	(1)	8	8
Moffat	58	484	542
Montezuma	14	1,455	1,469
Montrose	14	714	728
Ouray	21	426	447
Park	2	22	24
Pitkin	4	175	179
Pueblo	42	343	385
Rio Blanco	42	470	512
Rio Grande	4	35	39
Routt	90	527	617
Saguache	8	119	127
San Juan	(1)	9	9
San Miguel	28	494	522
Summit	(1)	17	17
Teller	3	12	15
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All counties	798	14,690	15,488

¹Less than 0.5 thousand cubic feet.

Table 54--Annual mortality of State and privately owned woodland by county and ownership class, Colorado, 1982

County	Ownership class		Total
	State	Private	
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	<u>Thousand cubic feet</u>		
Alamosa	--	(1)	(1)
Archuleta	(1)	207	207
Boulder	--	--	--
Chaffee	(1)	6	6
Clear Creek	--	--	--
Conejos	(1)	(1)	(1)
Costilla	--	41	41
Custer	(1)	3	3
Delta	2	55	57
Dolores	3	68	71
Douglas	--	--	--
Eagle	(1)	3	3
Elbert	--	--	--
El Paso	--	--	--
Fremont	34	332	366
Garfield	1	152	153
Gilpin	--	--	--
Grand	(1)	(1)	(1)
Gunnison	(1)	5	5
Hinsdale	--	(1)	(1)
Huerfano	1	8	9
Jackson	--	(1)	(1)
Jefferson	--	--	--
Lake	--	--	--
La Plata	10	228	238
Larimer	--	--	--
Las Animas	1	15	16
Mesa	--	139	139
Mineral	--	1	1
Moffat	66	218	284
Montezuma	5	246	251
Montrose	6	126	132
Ouray	(1)	42	42
Park	--	--	--
Pitkin	(1)	2	2
Pueblo	1	5	6
Rio Blanco	16	119	135
Rio Grande	--	(1)	(1)
Routt	1	4	5
Saguache	--	1	1
San Juan	--	(1)	(1)
San Miguel	12	95	107
Summit	--	(1)	(1)
Teller	--	--	--
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All counties	159	2,121	2,280

¹Less than 0.5 thousand cubic feet.

Conner, Roger C.; Green, Alan W. 1988. Colorado's woodland resources on State and private land. Resour. Bull. INT-50. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 50 p.

Presents highlights of Colorado's State and privately owned woodlands. Summarizes the basic statistics and presents tables of area, volume, growth, and mortality estimates. Also includes estimates of fuelwood harvest and number of fenceposts and Christmas trees available.

KEYWORDS: woodland area, net volume, growth, mortality, pinyon-juniper

INTERMOUNTAIN RESEARCH STATION

The Intermountain Research Station provides scientific knowledge and technology to improve management, protection, and use of the forests and rangelands of the Intermountain West. Research is designed to meet the needs of National Forest managers, Federal and State agencies, industry, academic institutions, public and private organizations, and individuals. Results of research are made available through publications, symposia, workshops, training sessions, and personal contacts.

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